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OXFORD ENVIRONMENTAL INC.

43 Route 46 East, Suite 702 • Pine Brook, NJ 07058 • 973.244.0600 • fax 973.244.0722 • www.oxfordenv.com

May 4, 2001 – via US Mail

Mr. Eric Wilson
On-Scene Coordinator
United States Environmental Protection Agency
Region II, Removal Action Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

Re: BI-WEEKLY STATUS REPORT
APRIL 20 THROUGH MAY 4, 2001
126 SPICER AVENUE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE
SOUTH PLAINFIELD, NEW JERSEY
INDEX NO. CERCLA-02-2000-2005
OXFORD NO. 20115

Dear Mr. Wilson:

Oxford Environmental, Inc. (Oxford) submits this bi-weekly status report (status report) to document activity conducted at the referenced site for the period of April 20 through May 4, 2001. The status report is submitted pursuant to the requirements of the Administrative Order of Consent (AOC) between DSC of Newark Enterprises (Respondent) and the United States Environmental Protection Agency (USEPA).

The following is a summary of the activity conducted:

- April 26, 2001: Removal Action Work Plan (RAWP) was submitted to the USEPA via courier and US Mail for approval. Copies of the RAWP were also submitted to the Respondent and Daniel Sheridan, Esq., the Respondent's counsel.

No other activity was conducted by Oxford.

The following is a summary of the activity anticipated for the period of May 5 through May 18, 2001:

- USEPA comments or approval of the RAWP submitted on April 26, 2001.
- Initiation of site preparation as described in the RAWP.

Oxford anticipates no other activity for the project for the period of May 5 through May 18, 2001.

Should you have any questions, please feel free to contact John Moco, CEI or myself at (973) 244-0600.

Sincerely,

Timothy Francisco
Project Coordinator

Copy: M. Sundram, PhD., Esq. – USEPA via US Mail
L. Coraci – DSC Newark Enterprises copy via US Mail
D. Sheridan, Esq. – Spadaccini, Main, & Sheridan via US Mail
File

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6/20/01

Conv. w/ ERIC WILSON of EPA -
Verbally informed me that the
Cleanup @ 124 was taken away
from DSC - EPA to complete.

JW.

OE # 20115-002

REMOVAL ACTION WORK PLAN

126 Spicer Avenue
South Plainfield, New Jersey

Cornell-Dubilier Electronics Superfund Site
South Plainfield, New Jersey
Index Number CERCLA-02-2000-2005

April 26, 2001

Prepared for:

DSC of Newark Enterprises
70 Blanchard Street
Newark, New Jersey 07105

Submitted to:

United States Environmental Protection Agency
Region II, Removal Action Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

Prepared by:

OXFORD ENVIRONMENTAL INC.

43 Route 46 East, Suite 702 • Pine Brook, NJ 07058 • 973.244.0600 • fax 973.244.0722 • www.oxfordenv.com

April 26, 2001 – via courier

Mr. Eric Wilson
On-Scene Coordinator
United States Environmental Protection Agency
Region II, Removal Action Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

Re: REMOVAL ACTION WORK PLAN
126 SPICER AVENUE
CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE
SOUTH PLAINFIELD, NEW JERSEY
INDEX NO. CERCLA-02-2000-2005
OXFORD NO. 20115

Dear Mr. Wilson:

Transmitted is a copy of the Removal Action Work Plan (RAWP) prepared by Oxford Environmental, Inc. for the referenced project. The RAWP identifies the procedures to be implemented to satisfy the outstanding tasks associated with the project's administrative order of consent (AOC).

Should you have any questions or require further assistance, please feel free to contact John Moco, CEI or myself at (973) 244-0600.

Sincerely,

Timothy Francisco
Project Coordinator

Attachments

Copy: M. Sûndram, PhD., Esq. – USEPA (1 copy via US Mail)
L. Coraci – DSC Newark Enterprises (1 copy via US Mail)
D. Sheridan, Esq. – Spadaccini, Main, & Sheridan (1 copy via US Mail)
File

TF/jm

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EXECUTIVE SUMMARY

The United States Environmental Protection Agency (USEPA) has identified polychlorinated biphenyls (PCBs) at neighboring residential properties, as the result of past activities at the former Cornell-Dubilier Electronics at Hamilton Industrial Park in South Plainfield Township, Middlesex County, New Jersey. The former Cornell-Dubilier Electronics at Hamilton Industrial Park is currently on the National Priorities List as a Superfund site. The site is known as 126 Spicer Avenue and is located west of the Cornell-Dubilier Electronics. Removal action of PCB contaminated soil and site restoration has been mandated under an Administrative Order of Consent (AOC) issued by USEPA under CERCLA 02-2000-2005. The Respondent (DSC of Newark Enterprises, Inc.) retained Oxford Environmental to serve as Project Coordinator, to manage the removal action and site restoration requirements pursuant to the AOC.

This Removal Action Work Plan (RAWP) has been prepared in accordance with the requirements specified in the AOC. Specifically, the RAWP defines the scope of work necessary to complete the AOC. The scope of work includes:

- Excavation and disposal of PCB contaminated soils;
- Relocation of site residents during the excavation and restoration activities, as necessary to complete these activities;
- Site restoration;
- Implementation of quality assurance/quality control (QA/QC) protocols; and
- Implementation of health and safety procedures necessary to protect workers and residents.

On completion of field activities, a final report will be prepared which documents the work completed to date pursuant to the AOC.

1.0 INTRODUCTION

1.1 Background

The United States Environmental Protection Agency (USEPA) has identified polychlorinated biphenyls (PCBs) at neighboring residential properties, as the result of past activities at the former Cornell-Dubilier Electronics at Hamilton Industrial Park in South Plainfield Township, Middlesex County, New Jersey. The former Cornell-Dubilier Electronics at Hamilton Industrial Park is currently on the National Priorities List as a Superfund site. The site is known as 126 Spicer Avenue and is located west of the Cornell-Dubilier Electronics. Figure 1 is a Site Location Map that depicts the regional location of the site. The site layout is depicted in Figure 2, Site Plan.

Removal action of PCB contaminated soil and restoration activities at the site were mandated under an Administrative Order on Consent (AOC) issued by USEPA under CERCLA 02-2000-2005. The Respondent (DSC of Newark Enterprises, Inc.) retained Oxford Environmental (Oxford) to serve as Project Coordinator, to manage the removal action and site restoration requirements pursuant to the AOC.

1.2 Site Setting

The site is a residential property, located in a mixed industrial, commercial and residential area.

1.3 Background

Various manufacturing operations have occupied or operated at Hamilton Industrial Park. Cornell-Dubilier Electronics was involved in the manufacturing of electronic components including capacitors, from 1936 to 1962. Reportedly, Cornell-Dubilier Electronics disposed PCBs contaminated materials and other hazardous substances on-site, which were released to the environment. PCBs have been detected in soils at Hamilton Industrial Park, and at adjacent residential and commercial properties. PCBs have also been identified in the surface water and sediment of Bound Brook adjacent to the Hamilton Industrial Park. The former Cornell-Dubilier Electronics facility at Hamilton Industrial Park was added to the Superfund National Priorities List of hazardous waste sites in July 1998.

In November 1998, the USEPA collected approximately 31 samples surface (0-2") soil samples at the site, which were analyzed for total PCBs. Analytical results indicated total PCB concentrations that ranged from 0.34 mg/kg to 6.2 mg/kg (estimated), Arochlor-1254 concentrations ranged from 0.31 mg/kg to 6.0 mg/kg, and Arochlor-1260 concentrations ranged from non-detected (below the laboratory method detection limit) to 0.56 mg/kg.

1.4 Purpose and Scope of Work

The purpose of the RAWP is to define the scope of work required to complete the removal action and restoration of the site in accordance with the AOC. The tasks associated with the removal action and restoration as specified in the AOC include:

- Submission of the data collected that delineates the vertical and horizontal extent of PCB contaminated soil above the site-specific clean-up criteria of 1.0 mg/kg.
- Site preparation and temporary relocation of residents during soil removal and restoration activities.
- Excavation of PCB contaminated soil at the site and subsequent restoration
- Off-site disposal of excavated PCB contaminated soil
- Permitting and site access necessary to complete removal action activities.
- Implementation of Quality Assurance/Quality Control (QA/QC) protocols as part of a Quality Assurance Project Plan (QAPP) found in Appendix A.
- Implementation of health and safety procedures for removal action activities, as part of the site's Health and Safety Plan (HASP) found in Appendix B.
- Coordination of activities with residents and the community.

2.0 SOIL SAMPLE COLLECTION AND LABORATORY ANALYSIS

2.1 Introduction

Shallow surface soil samples were collected by USEPA and Oxford for laboratory analysis to determine the horizontal and vertical extent of PCB contamination exceeding the site-specific clean-up criteria of 1 mg/kg. The shallow surface soil samples collected by USEPA in November 1998 were utilized to determine the location and extent of horizontal and vertical sampling conducted by Oxford in November 2000.

Thirty-one shallow surface soil samples and two duplicate samples were collected at the site and analyzed by the USEPA. Data for the shallow surface soil samples were statistically analyzed. The functional distribution of these samples was identified as normal. Concentrations of PCBs in these samples were 6.2 mg/kg (maximum), 1.35 mg/kg (mean), 1.22 mg/kg (standard deviation), and 1.78 mg/kg (95% UCL).

Six of the 31 samples were removed from the data set in order to meet the soil cleanup criteria of 1 mg/kg. The functional distribution of these samples was identified as normal. Concentrations of PCBs in these samples were 1.62 mg/kg (maximum), 0.88 mg/kg (mean), 0.3 mg/kg (standard deviation), and 0.95 mg/kg (95% UCL).

Soil sample locations used to determine the limits of the soil removal excavations are identified in Figure 3.

Oxford implemented standard sampling and analysis procedures, sample management procedures, and incorporated USEPA Chain of Custody procedures, as set forth in "Test Methods for Evaluating Solid Wastes" (SW-846) (November, 1986 and as updated) for sampling and testing, as required by USEPA.

2.2 Soil Sample Collection

Based upon the data generated by the USEPA, Oxford collected vertical delineation soil samples at 6-inch intervals in November 2000 to a maximum depth of 24 inches below grade at one location. Soil samples collected at a depth of 12 inches to 18 inches below grade were field screened. Based on these results, it was necessary to collect 1 additional soil sample from 18-inches to 24-inches below grade for laboratory analysis. Concentrations of PCBs greater than or equal to the site-specific clean-up criteria of 1 mg/kg were not identified in soil samples collected deeper than 18 inches below grade. Therefore, it was not necessary to collect additional soil samples at a depth greater than 24 inches below grade.

In order to facilitate the excavation and backfilling processes, and to minimize the inconvenience and impact on the people residing at the site, verification sampling was conducted prior to excavation rather than in the conventional post-excavation manner. In accordance with the AOC, verification sampling included:

- One soil sample from each of the Area A and Area B excavation bottoms (less than 900 square feet);
- Two soil samples from the Area C excavation bottom (greater than 900 square feet);
- The collection of four soil samples from the bottom of each of the Area A, Area B, and Area C excavation sidewalls.

The bottom verification grab soil samples were collected at a depth of 6 inches directly below the proposed bottom of the excavation.

Oxford utilized the Strategic Diagnostic Inc. Ensys field test kit along with laboratory verification analysis to delineate the vertical and horizontal extent of PCB contamination exceeding the site-specific clean-up criteria of 1 mg/kg. The field test kit was calibrated to measure concentrations of PCB Aroclor-1254 and Aroclor-1260 at a detection limit of 1 mg/kg and 5 mg/kg. Oxford tested the soil at the three proposed excavations (Area A, Area B, and Area C).

Zero to six-inch surface soil samples were used to verify the horizontal limits of excavation. For cases where excavations extend to a physical barrier or property boundary, no sidewall verification sampling was. The horizontal delineation was continued until a physical barrier or property boundary was reached, or sampling and subsequent laboratory analysis identified PCB concentration less than 1 mg/kg was obtained. The location of the soil samples collected in Excavations A, B, and C is shown on Figure 3.

2.3 Disposal Sample Collection

A disposal facility has been identified for final disposal of PCB-contaminated soil and is described in Section 6. This facility has been contacted regarding pre-approval waste sampling and characterization requirements. The data collected as part of the completed sampling program described in Section 2 will be expected to satisfy the frequency sampling required for characterization of PCB concentrations in soils for disposal purposes. Additional waste characterization analysis may be required by the facility requirements. These requirements are discussed in Section 6.

2.4 Soil Sampling Procedures

Dedicated clean stainless steel sampling spoons were used to collect soil samples. Sampling equipment was decontaminated prior to use and arrived at the site in clean condition. Between sampling locations, and depths, sampling equipment was decontaminated using the following procedure:

- Contaminated equipment was placed on plastic ground sheet;
- Contaminated equipment was washed thoroughly with Alconox to remove any particulate matter or surface films using bristle brush, as needed;
- Contaminated equipment was rinsed thoroughly with clean potable water and allowed to air-dry; and
- Clean equipment was wrapped in aluminum foil for storage and transportation.

Prior to implementing decontamination of the sampling equipment, a location within the sampling area was designated for these activities. Wash water was allowed to evaporate or infiltrate in the ground.

Oxford sampling personnel maintained a field log to document the sampling activities at the site. Each soil sample collected was given a unique sample identification number.

The initials CDFF, followed by the date of sample collection precede the sample number. A denotes a sample depth of 0 to 6 inches below grade; B denotes a sample depth of 6 inches to 12 inches below grade; C denotes a sample depth of 12 inches to 18 inches below grade; and D denotes a sample depth of 18 inches to 24 inches below grade. For example, CDFF110200-01C represents a soil sample collected on November 2, 2000 at location 1 at a depth of 12 inches to 18 inches below grade.

The following QA/QC codes were used for sample identification, as applicable:

- MS – Matrix Spike
- SD – Matrix Spike Duplicate
- MD – Matrix Duplicate
- FD – Field Duplicate
- RS – Rinsate Blank
- FB – Field Blank
- TB – Trip Blank

The laboratory (Severn Trent Laboratory) provided the sample containers. Samples were stored in coolers and transported from the site to the laboratory via Oxford personnel. The samples were shipped under chain of custody documentation. Each cooler had it's own separate chain of custody records and was transported to the laboratory as excluded materials (as defined in 40 CFR Part 261.4).

Upon sample receipt at the laboratory, the dates the samples were collected, were recorded by the sample custodian. The date for completion of analysis (or extraction) were noted and keyed to the holding time.

2.5 Laboratory Analysis Methodology

Severn Trent Laboratory analyzed the soil samples collected by Oxford for PCBs in accordance with the procedures presented in USEPA's Test Methods for Evaluating Solid Waste (Physical/Chemical Methods), SW-846, November 1986-Method 8082 (Revision 0, December 1996).

2.6 Data Evaluation Methodology

The identification of PCB contaminated soil to be removed at the site was based on surface soil data collected in November 1998 and November 2000 by the USEPA and Oxford, respectively. Oxford's evaluation the data was conducted using the following assessment methodology:

<u>Step 1-Assemble Existing Data Set</u>
PCB concentrations identified in the surface soil samples collected were reviewed to evaluate removal requirements at the site. Non-detected concentrations of Aroclor 1254 and Aroclor 1260 were reported as one-half the laboratory method detection limit (MDL) for calculation purposes. For duplicate sample pairs, the average of sample pairs was used.

<u>Step 2-Test for Data Distribution</u>
The Shapiro-Wilk test (USEPA, June 1992) was used to determine if the PCB data collected followed a normal or log-normal distribution.

<u>Step 3-Determine Baseline 95% Upper Confidence Limit (UCL) Value</u>
The current (unremediated) 95% UCL was calculated according to the data distribution identified in Step 2 (USEPA, May 1992).

<u>Step 4-Identify Sample Locations for Removal Action</u>
Samples were eliminated from the data set beginning with samples with the highest concentrations. The reduced data set (that identifying soil that will not be removed) was retested for distribution type (normal/log-normal) and a new 95% UCL was calculated. This process was repeated until the projected 95% UCL value for the reduced data set no longer exceeded 1 mg/kg.

<u>Step 5-Definition of Soil Removal Area</u>
Sample locations eliminated from the data set in Step 4 are designated for soil removal. The area where contaminated soil is to be excavated was determined in accordance with the procedures described in Section 4.2.

Table 1 summarizes the results of the laboratory analysis performed on the soil samples collected to determine the extent of Excavations A, B, and C.

3.0 EXCAVATION AND RESTORATION PLAN

3.1 Scope of Excavation

The site-specific data collected to date was used to determine the final extent and volumes of the excavations and the PCB contaminated soil to be removed.

Oxford will utilize previously approved methodology that was established by ENVIRON in implementing their *Residential Property Removal Work Plan* for this same project in association with the Hamilton Industrial Park.

Based on an evaluation of data collected as part of other CERCLA PCB soil characterization programs, ENVIRON developed an approach for preparing preliminary estimates of the areas of PCB contamination in soils. The following approach is applied for the preparation of removal action area estimates:

- The removal action area associated with a given sample location is considered to be rectangular.

- Horizontal boundaries of PCB removal action areas are established midway between contiguous sampling points. Barriers such as walls and pavement boundaries, where present, and the site boundaries (or associated limits of residential use) are also taken to be horizontal boundaries.

- Vertical boundaries of PCB removal action areas are determined by the analytical results of the nearest vertical soil sample collected during pre-excavation sampling

3.2 Statistical Identification of Remedial Excavation Limits

Prior to removal action, verification samples were collected from the base and sidewalls of each proposed excavation area in accordance with the excavation verification procedures described in Section 2. The extent of required excavations were determined by statistical analysis in accordance with Section 2. Specifically, the verification data obtained from sampling was combined with the remaining surface soil sample data from the portion of the site that remains unexcavated. The combined data set was then tested for a normal and log-normal distribution, and a new 95% UCL of the mean PCB concentration for the site was calculated.

3.3 Excavation Procedures

The site will be prepared prior to excavation in accordance with the procedures described in Section 5. Excavation areas will be measured and staked as determined by the statistical analysis described in Section 4. Removal of soil and vegetation will be performed using machine and manual excavation methods, depending on the proximity to structures and mature trees. Shovels or other manual soil removal equipment may be utilized if the excavation is located in an area inaccessible by other means. Hand excavation will be conducted at the base of mature trees located within designated excavation areas. Removal of constructed features is not anticipated at this site. Soil erosion control measures will be implemented as needed to prevent migration of soils out of the excavation areas. A water mist will be employed as necessary during excavation in order to control airborne migration of dust; the need for dust control will be determined in accordance with the HASP (see Section 9). Every possible effort will be made to have all excavated areas filled with clean backfill at the end of each workday. In the event that the excavations are not filled at the end of the workday, they will be secured with construction fencing.

Specific depths of excavation are based on the results of the soil samples collected to determine vertical delineation. The areas to be excavated and associated depths are depicted in Figure 3.

3.4 Soil Loading and Staging Procedures

Excavated soil will be loaded directly into trucks from the excavation areas. Trucks waiting to be loaded will be parked on the street in front of 126 Spicer Avenue or on the existing asphalt driveway. Excavation equipment such as backhoes, will utilize only the designated pathway in order to transport soil from the excavation area to the truck. Manually excavated soil will be transported along the same path using a wheelbarrow or other mobile transport mechanism. In the event that any contaminated soil is spilled onto the existing sod, this sod will be removed and replaced.

3.5 Equipment Decontamination Procedures

Mechanized equipment such as backhoes and loaders, will begin excavations from a clean area and will excavate linearly, so that the wheels of the machine do not contact PCB contaminated soil within an excavation area. To prevent excavated soil from contacting clean soil outside the exclusion zone, plastic sheeting will be placed along the path of the excavating equipment. Soil collected on the plastic will be periodically swept toward the exclusion zone and collected for transfer to the dump truck. During transport of excavated soil to the disposal truck, mechanized excavation equipment will be required to stop in the decontamination zone for visual inspection and removal of any accumulated dust or soil.

At the end of each workday, excavation machines and hand-held equipment may remain on-site at the discretion of the contractor. Alternately, such equipment may be removed off-site or stored in the staging area described in Section 5. All equipment remaining on-site at the end of each day will be secured with construction fencing. Any heavy equipment leaving the site at the end of the workday must be decontaminated by power washing, steam cleaning or any effective means identified in 40 CFR Part 761. Wheels of excavation equipment will be visually inspected and any accumulated dust or soil will be removed for disposal. Wash water from the decontamination area will be collected for off-site management.

3.6 Property Restoration

Following completion of excavation activities each work day, the excavated areas will be backfilled with clean fill and graded to original condition. Restoration of landscaping and certain site features will be dependent on weather conditions. Landscape restoration will be to existing conditions or equivalent value. Appendix C discusses the restoration plans.

Before excavation begins a Certified Professional Soil Specialist (CPSS) will travel to the source of the proposed fill and topsoil. The CPSS will evaluate the proposed fill and topsoil and provide a certification that this material is from a virgin source (that is, without industrial or agricultural use). The CPSS will request analysis that shows that the soil reaction is neutral (pH 6.6 - 7.3) and that the topsoil soil texture corresponds to loam soil texture with an organic matter content of 1% to 3%. The soil reaction of the fill will also be neutral and correspond to a loam, sandy loam, or gravely sandy loam texture

4.0 SITE PREPARATION

4.1 Introduction

This section summarizes the activities that will be conducted on or in the vicinity of the site prior to implementation of the soil excavation action defined in Section 3.

4.2 Site Survey

A land survey will be conducted on the site to verify and identify the property boundaries. The surveyor will identify the property corners with a wooden surveyor's stake or pin. An inventory will be taken of the existing vegetation and construction features on the site and photographs will be taken so that the areas disturbed as a result on the removal action may be restored to pre-construction conditions or equivalent. The survey, inventory, and photography activities will be completed prior to the mobilization of excavating equipment to the site. Documentation resulting from these activities will be used in the development of a restoration schedule for the site.

4.3 Resident Relocation

The removal action activities on the site will be scheduled to minimize disruption of residential activities. Based on the anticipated scope of work, the excavation and site restoration will be for a short time therefore limited residential relocation is anticipated. Continuous air monitoring will be conducted at residential portals and dust control measured will be taken during remedial activities as described in Section 9. If the resident desires to voluntarily relocate during excavation activities at the site, relocation will be implemented in accordance with the relocation procedures described below. Expenses for temporary relocation will be addressed through a per diem payment.

4.4 Security

Prior to excavation activities, work zones will be defined as described in Section 5. All personnel entering the site will sign and entry/exit log. Only authorized personnel meeting the requirements of the HASP will be allowed access to the site. Entry onto the site by other personnel will be at the discretion of the Project Coordinator and in accordance with the HASP. The Project Coordinator and the USEPA On-Scene Coordinator will restrict access to the property to an as-need basis only.

In the event that it is determined that the residents need to relocate, continuous security service will be provided during non-working hours while residents are temporarily relocated.

4.5 Preparation of Site Work Zones

Initial work zones at this site are identified in Figure 4. Oxford will delineate exclusion zones, contamination reduction zones and clean zones in accordance with the HASP. Exclusion zones include all areas proposed for excavation and any clean areas located between excavation areas as designated in Figure 4. Contaminant reduction zones are buffer zones between the exclusion zones and the clean areas defined below. The contaminant reduction zones include, where feasible, clean areas on the site surrounding the exclusion zones.. Due to the limited work area at the site and the proximity to other residences not included in the RAWP, it will not be feasible to designate contaminant reduction zones around the complete perimeter of each exclusion zone. Clean zones are those areas not included in the scope of the RAWP and include equipment storage areas and facilities. Decontamination zones are those areas on the site designated for decontamination of remediation workers. Decontamination zones will be located on areas adjacent to each exclusion zone that have not been identified for soil removal action. The perimeters of these zones will be clearly marked at each location, and entry to the various areas will be controlled to limit access to authorized workers wearing the proper equipment. The perimeters of the work zones will be re-designated as soil removal activities progress. The HASP addresses the restriction to access in each work zone and the required levels of protection.

Portals (windows, doors, vents, etc.) to the home located at the site where excavation activities are to be conducted will be sealed with plastic sheets and tape during excavation in order to minimize the potential of dust from excavation activities entering the residence.

Prior to excavating, the location of underground utilities at the site will be identified the contractor using the New Jersey One-call service and any additional resources required. No electricity is anticipated to be required during implementation of the RAWP. Water will be transported to the site each day as anticipated for decontamination activities and dust control. If a continuous water supply is required, contractors will record water usage so that appropriate compensation may be provided to the site owner upon completion of RAWP activities.

Prior to implementation of excavation activities, decontamination areas will be adjacent to each exclusion zone as described above. Workers exiting the exclusion zone on foot must follow decontamination procedures as described in the HASP. Hand-held equipment must be decontaminated in accordance with decontamination procedures described in Section 3. Heavy equipment will be decontaminated in accordance with procedures described in Section 4.

5.0 DISPOSAL PLAN

5.1 Scope of Removal Activities

Based on the results of the laboratory analysis performed on the soil samples collected by the USEPA in November 1998 and Oxford in November 2000, the maximum concentration of PCBs identified at the site was 6.2 mg/kg. According to 40 CFR Subpart 761, soils with PCB concentrations in soil less than 50 mg/kg may be disposed of in a Subtitle D landfill if otherwise classified as non-hazardous.

The soil to be excavated from the site is categorized as non-hazardous, non-Toxic Substances Control Act (TSCA) waste. The excavated soil will be transported to Casie Protank Ecological and Environmental Services/MART Technologies in Vineland, New Jersey (Casie Protank). Appendix D contains disposal facility information.

The transportation of the PCB-contaminated soil will comply with applicable federal and state regulations.

5.2 Disposal Requirements

The soil disposal will meet the following of Middlesex County and Casie Protank. These requirements are described in the following subsections.

- Maximum Allowable Chemical Concentrations
  The maximum acceptable concentration of PCB in soil for Casie Protank is less than 50 mg/kg. The sampling data collected to date indicates that PCB concentrations fall within the accepted limits for this facility.

- Waste Characterization
  In the event that the existing soil sampling data is deemed insufficient, additional waste characterization samples may be collected based on the disposal facility requirements. Waste profiles and supporting documentation will be submitted to USEPA for review prior to the submission to the proposed disposal facility.

- Facility Forms
  Waste profiles and non-hazardous waste certification sheets are required by the disposal facility. Oxford will complete these forms. Sample waste manifests shall be submitted to USEPA for review at least 5 days prior to shipment.

- Transportation Permits
  The hauler requirements are specific to each state. Each hauler must have the appropriate permit for the state of the destination landfill or treatment facility.

5.3 Disposal Notifications

The USEPA will be notified at least 5 days prior to the shipment of the PCB contaminated soil to the designated landfill. PCB contaminated soil will not be shipped from the site until USEPA approval is received.

6.0 PERMITS, APPROVALS AND SITE ACCESS

6.1 Permits and Approvals

All activities required under the terms of the AOC will be performed only by qualified persons possessing all necessary permits, licenses, and other authorizations required by federal, state and local governments, and all work conducted pursuant to the AOC will be performed in accordance with prevailing professional standards.

Any hazardous substances, pollutants, or contaminants removed from the site pursuant to the AOC for off-site treatment, storage, or disposal will be treated, stored, or disposed of in compliance with (a) Section 121 (d)(3) of CERCLA, 42 USC §9621(d)(3) (b) Section 300.440 of the NCP, (c) RCRA, (d) the TSCA, 15 USC §2601, et seq., and (f) all other applicable federal and state requirements. However, as specified in the AOC pursuant to CERCLA and the NCP, no permit shall be required for any portion of the work that is conducted entirely on this site.

If hazardous substances from the site are to be shipped outside of New Jersey, the Respondent will provide prior notification of such out-of-state waste shipments in accordance with OSWER Directive 9330.2-07. The Respondent will assure that the receiving facility of any waste from the site possesses the appropriate environmental permits and/or approvals. Transportation of waste off-site will comply with federal and state labeling, packaging and transportation requirements.

6.2 Site Access

The Respondent has an access agreement from the owner of 126 Spicer Avenue to conduct the work specified in the AOC. A copy of this agreement is provided in Appendix D. It is not anticipated that the implementation of the RAWP will require use of adjacent residential properties, or that the work might restrict access or use of adjacent residential properties. It is possible that access to Spicer Avenue and its sidewalks may need to be restricted in order to implement portions of the RAWP. If applicable, additional access agreements or disruption permits will be obtained prior to implementation of the RAWP.

USEPA and NJDEP employees, agents, contractors, or consultants will be permitted on the site at all times, to observe the implementation of the RAWP.

7.0 QUALITY ASSURANCE/QUALITY CONTROL PLAN

7.1 Purpose

A QAPP was prepared and implemented during the sample collection and laboratory analysis associated with the RAWP. The QAPP was prepared in accordance with USEPA SW-846; Guidance for Preparation of Combined Work/Quality Assurance Project Plans for Environmental Monitoring, USEPA, May, 1984; National Enforcement Investigations Center Policies and Procedures Manual, May 1978, revised August, 1991; and the National Enforcement Investigations Center Manual for the Evidence Audit, September, 1981. The QAPP is provided as Appendix A to the RAWP.

The purpose of the QAPP is to ensure that the analytical results obtained are of sufficient quality to reliably indicate the extent of PCB contaminated soil exceeding the site-specific clean-up criteria of 1 mg/kg.

The evaluation of data involved the collection of QC samples in accordance with the sampling and analysis protocols. The QA/QC protocols also included the systematic validation of the analytic data and the management of the analytic data in electronic format.

7.2 Remedial Action Objectives and Data Usage

The purpose of the remedial action is to remove PCB contaminated soil at the site exceeding the site-specific clean-up criteria of 1 mg/kg. The laboratory results obtained from the soil samples collected were used to determine the extent of the PCB contaminated soil.

7.3 Quality Control Field Blanks

Field blanks are collected to confirm the integrity of the sampling equipment. Analyte-free water provided by the laboratory is poured over or through a representative clean piece of sampling equipment, collected in a sample container, preserved, and returned to the laboratory for analysis. Since dedicated stainless steel spoons were used, field blanks were not collected.

Duplicate samples are collected to identify the precision of the sampling and analytical procedures. Two samples are collected at the same location, representing the same matrix, as closely as possible. The results obtained represent the total precision of the sampling and analytical procedures and the variability associated with a common sampling point. Oxford collected 1 field duplicate sample for every 20 soil samples collected. Duplicate samples were analyzed for all parameters for which the corresponding sample pairs were analyzed.

7.4 Quality Control Laboratory Samples

The laboratory maintained method blanks during sample preparation and analysis for each batch of samples processed. Method blanks are used to assess whether samples are being contaminated in the laboratory. Method blanks are specific for each analytical method and for each batch of 20 samples.

Matrix spike and matrix spike duplicate sample are created when the laboratory adds a known amount of an analyte to the sample. The matrix spike provides data on the matrix effects of a particular sample

7.5 Data Validation and Usability Review

Analytical validation and usability, including an evaluation of data quality parameters, false negatives, and detection limits was performed. The primary purpose of the validation and review is to determine if qualitative and quantitative problems exist from the laboratory QA/QC data

In addition, analytical data was validated using criteria set forth in USEPA Region II Standard Operating Procedures HW-23 Revision 0, which is specific to PCB analysis.

7.6 Data Management

Analytical data associated with the RAWP will be reduced into a spreadsheet or database format. The reduced data will contain the sample identifier, the analytical parameter, the reported result, any necessary qualifier, the method detection limit, the sampling date, and the sample matrix.

7.7 Approach to QAPP Implementation

The organizational structure of the project team, functional responsibilities, levels of authority, and lines of communication are described below.

<u>Project Coordinator: Timothy Francisco</u>
The project coordinator reports to the Respondent and serves as project director and overall technical reviewer of project deliverables. The project coordinator's responsibilities include review of work plans, schedules, costs, technical performance, and coordination of project activities with the project manager to achieve the objectives of the removal action and communication with both the Respondent and the USEPA and other relevant regulatory agencies.

<u>Project Manager: John Moco</u>
Project manager reports to the project coordinator and is responsible for the implementation of the RAWP. Project manager responsibilities include organization, coordination, and supervision of project tasks, communications with

the Respondent and USEPA, supervision of subcontractors, report preparation and technical review, and scheduling and budgeting.

Field Staff
Field staff report directly to the project manager and are responsible for assisting the project manager with the organization, coordination, and supervision of the various field tasks, including oversight of subcontractors.

Project Quality Assurance Manager: Robert Cerone
The project quality assurance manager reports directly to the project manager and is responsible for implementing the QAPP and addressing all matters relating to QA/QC. In addition, the project quality assurance manager conducts audits to ensure that work activities comply with this QAPP.

Site Health and Safety Officer: Joseph Arcoleo
The site health and safety officer reports directly to the project coordinator and project manager and is responsible for implementing the HASP.

Field Subcontractors:
Field subcontractors report to the project managers and will consist primarily of waste management subcontractors and material suppliers. Field subcontractors are responsible for documentation of initial site conditions, excavation, loading, transporting of PCB contaminated soil, and restoration of the site to pre-remedial conditions.

Laboratory
The laboratory reports directly to the project quality assurance manager and is responsible for implementation of appropriate sections of the QAPP and achieving the data quality objectives for analytical associated with the RAWP.

Field staff and office personnel performing quality control activities will be trained on the following:

- Objectives and procedures associated with the RAWP;
- The contents of this QAPP;
- Individual job responsibilities and authority.

Procurement of equipment and services will be made in accordance with project standards outlined in the RAWP, QAPP and HASP to assure that each prospective supplier or subcontractor understands the requirements. Applicable regulatory requirements and other requirements that may be necessary to ensure adequate quality will be included or referenced in the documents for procurement of material, equipment, and services.

8.0 HEALTH AND SAFETY PLAN

The site-specific HASP associated with the RAWP is provided in Appendix B. Elements identified in the HASP include:

- General site information including site name, address, background, work objectives, names of personnel who will be on-site, and names of key personnel responsible for site safety;
- Potential physical, chemical, and biological hazards;
- A brief hazard evaluation;
- Descriptions of appropriate levels of personal protection and decontamination;
- Air monitoring plan and dust control measures; and
- Emergency services information.

All site personnel will be required to read and sign the HASP.

9.0 COMMUNITY RELATIONS

The respondent will cooperate with USEPA in providing information associated with the RAWP to the public, at the direction of the USEPA. The respondent will participate in the preparation of information or public meetings, as needed.

All documents submitted to USEPA in the course of implementing the AOC will be available to the public unless identified as confidential by the Respondent pursuant to 40 CFR Part 2, Subpart B, and determined by USEPA to merit treatment as confidential business information in accordance with applicable law. In addition, USEPA may release all such documents to NJDEP, to be made available to the public pursuant to with applicable state law and regulations regarding confidentiality. The Respondent will not assert a claim of confidentiality regarding any data, any information specified under Section 104(e)(7)(F) of CERCLA, or any other chemical, scientific or engineering data relating to the RAWP.

A copy of the RAWP schedule and an information sheet will be distributed to the resident of the site prior to implementation of the RAWP. The information sheet will provide the following information:

- Identify the project manager, contractors, subcontractors, and other personnel authorized to access restricted work areas;
- Describe site preparation procedures to be taken at the site prior to excavation and restoration work;
- Describe the excavation and restoration procedures;
- Identify potential hazards and describe security measures to mitigate these hazards;
- Describe the proposed restoration plan.

10.0 RAWP IMPLEMENTATION

10.1 Project Schedule

A schedule has been developed for implementation of the activities described in the RAWP in accordance with the requirements of the AOC. The project schedule is provided in Appendix F.

10.2 Coordination of Work

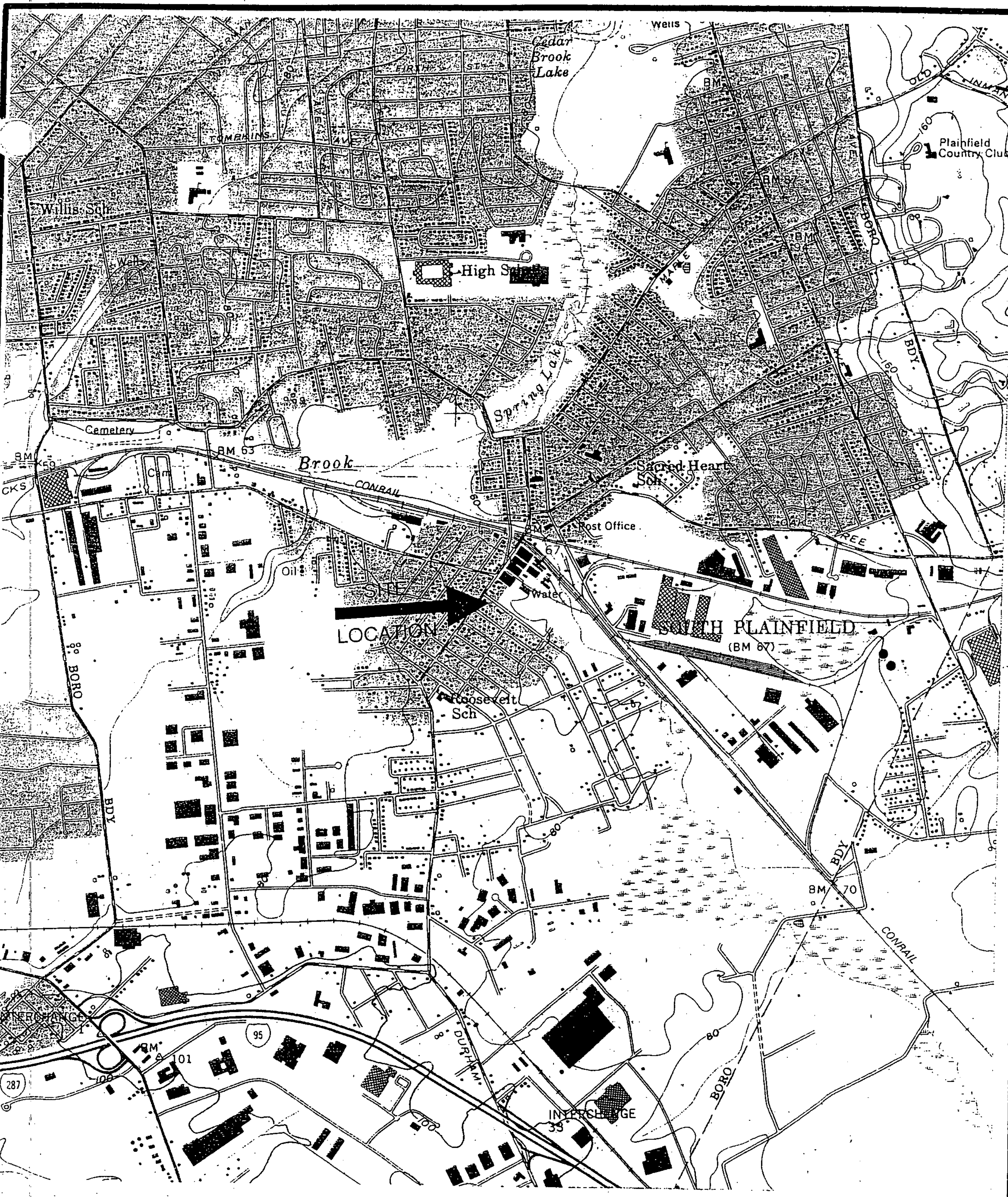
Upon submittal of the RAWP, Oxford will solicit and prepare request for proposals from qualified subcontractors (if any), evaluate bids, and recommend to the Respondent the issuance of contract awards. The USEPA will be notified of proposed subcontractors

Upon approval of the RAWP, the schedule of activities identified in Appendix F will be implemented. Oxford will notify the site owner, coordinate site access for field mobilization, and notify the USEPA at least 5 days prior to commencement.

10.3 Reporting

As required by the AOC, written progress reports will be provided to USEPA every 2 weeks, which details field activities implemented. Any changes in scope or schedule will be identified in the progress report, include updated information. Within 30 days, a final report will be prepared and submitted for USEPA approval documenting the tasks associated with the RAWP.

FIGURES

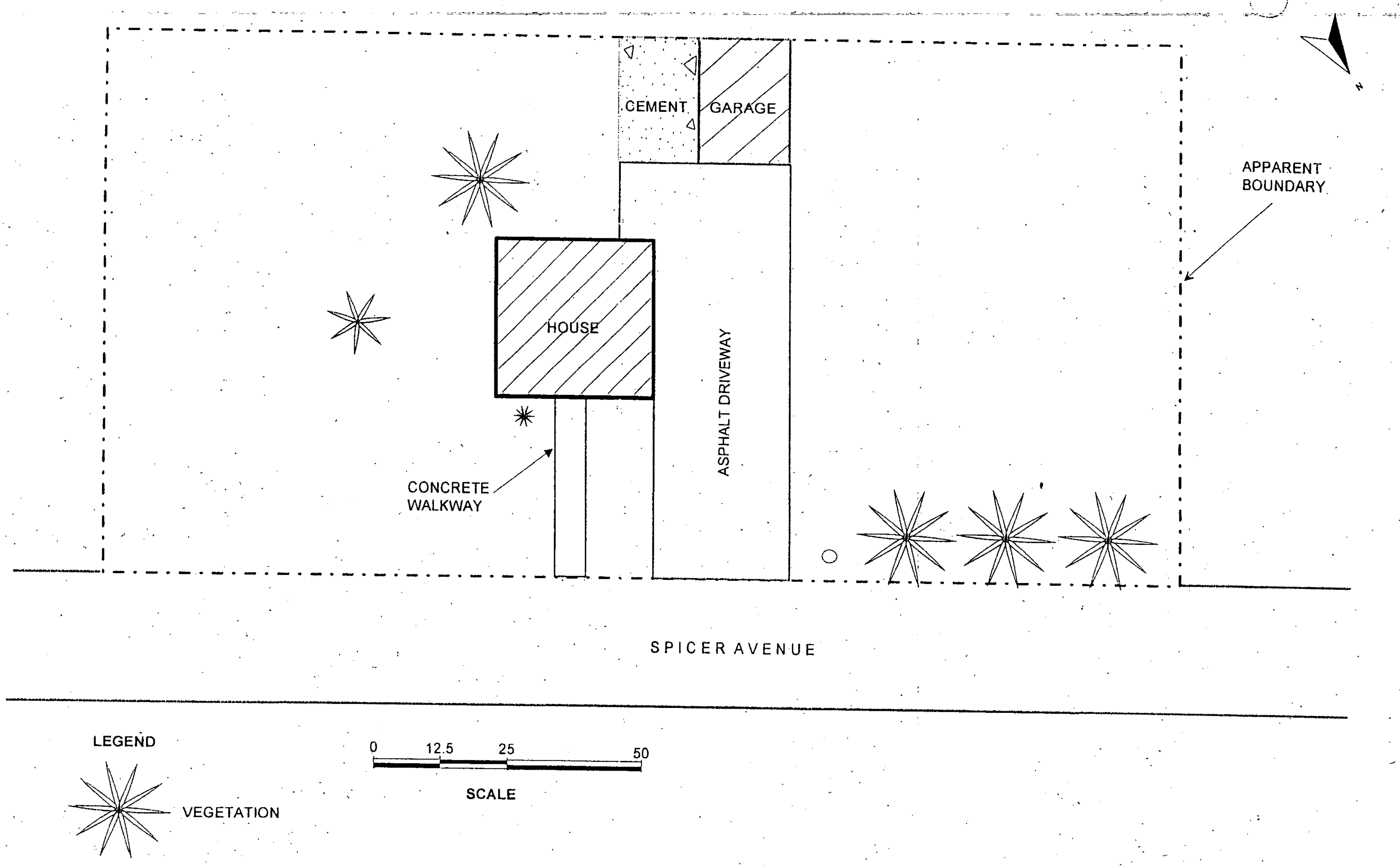


OXFORD ENVIRONMENTAL, INC.

43 Route 46 East, Suite 702, Pine Brook, New Jersey 07058
973.244.0600 Fax 973.244.0722 www.oxfordenv.com

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE
SOUTH PLAINFIELD, MIDDLESEX COUNTY, NEW JERSEY

126 SPICER AVENUE REMOVAL ACTION WORK PLAN	FIGURE 1 SITE LOCATION MAP



OXFORD ENVIRONMENTAL, INC.

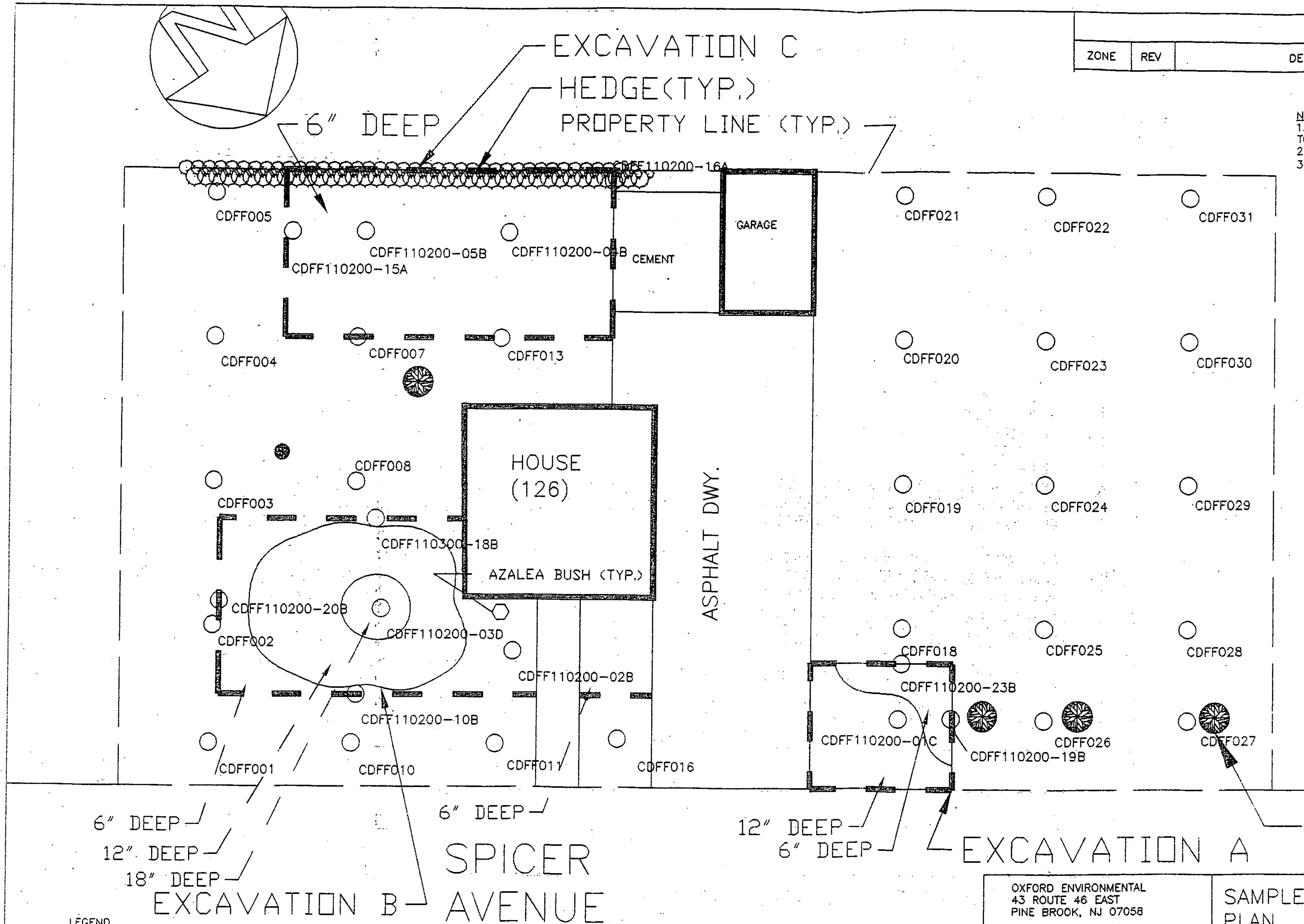
43 ROUTE 46 EAST, PINE BROOK, NEW JERSEY 07058

FIGURE 2 - SITE PLAN

REMOVAL ACTION WORK PLAN
IN ACCORDANCE WITH USEPA ADMISNITRATIVE ORDER
ON CONSENT CERCLA 02-2000-2005

126 SPICER AVENUE
SOUHT PLAINFIELD, NEW JERSEY

CORNELL-DUBILIER ELECTRONICS SUPERFUND SITE
SOUTH PLAINFIELD, MIDDLESEX COUNTY, NEW JERSEY



ZONE	REV	DESCRIPTION	DATE	APPROVED

REVISIONS

NOTES:
1. REFERENCE PLAN = FIGURE 2, SOIL SAMPLE LOCATIONS AND TOTAL PCB RESULTS, NOV. 18, 1998, BY ROY F. WESTON, INC.
2. LOCATIONS AND DIMENSIONS APPROXIMATE.
3. CONCENTRATIONS IN MG/KG (PPM).

USEPA SAMPLE RESULTS
CDFF001 0.42
CDFF002 1.01
CDFF003 0.85
CDFF004 1.62
CDFF005 0.72
CDFF007 1.2
CDFF008 1.13
CDFF010 0.78
CDFF011 1.1
CDFF013 1.3
CDFF016 1.1
CDFF018 0.7
CDFF019 0.98
CDFF020 0.48
CDFF021 1.1
CDFF022 0.49
CDFF023 0.46
CDFF024 0.99
CDFF025 0.69
CDFF026 0.94
CDFF027 1.2
CDFF028 0.82
CDFF029 0.75
CDFF030 0.67
CDFF031 0.47

BOTTOM VERIFICATION
CDFF110200-01C = 0.47
CDFF110200-02B = 0.237
CDFF110200-03D = 0.237
CDFF110200-04B = 0.827
CDFF110200-05B = 0.762

SIDEWALL VERIFICATION
CDFF110300-10B = 0.586
CDFF110200-15A = 0.785
CDFF110200-16A = 0.390
CDFF110300-20B = 0.406
CDFF110200-19B = 0.454
CDFF110200-23B = 0.575
CDFF110200-18B = 0.575

LEGEND

○ CDFF10200-20B = SOIL SAMPLE LOCATION AND DESIGNATION
A = 0-6"
B = 6 - 12"
C = 12 - 18"
D = 18 - 24"

0 20 40

OXFORD ENVIRONMENTAL
43 ROUTE 46 EAST
PINE BROOK, NJ 07058

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SAMPLE LOCATION AND EXCAVATION PLAN

126 SPICER AVENUE, SOUTH PLAINFIELD, NEW JERSEY

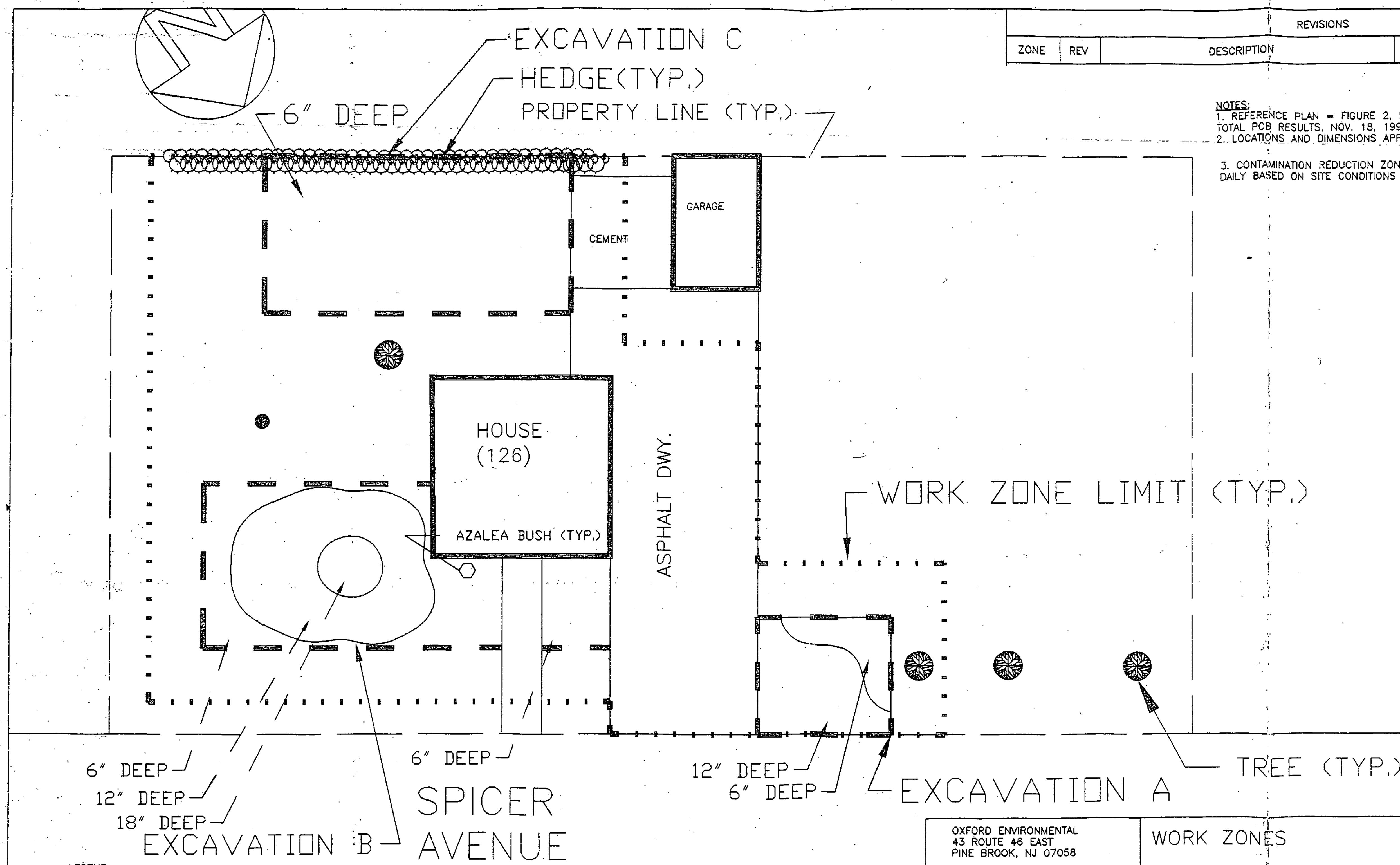
DRAWN BY: GB

CHECKED: JL

SIZE B | FSCM NO. 20115 | DWG NO. 3 | REV 0

SCALE 1" = 20' | 4/23/01 | SHEET 1

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



NOTES:
1. REFERENCE PLAN = FIGURE 2, SOIL SAMPLE LOCATIONS AND TOTAL PCB RESULTS, NOV. 18, 1998, BY ROY F. WESTON, INC.
2. LOCATIONS AND DIMENSIONS APPROXIMATE.

3. CONTAMINATION REDUCTION ZONES WILL BE DETERMINED DAILY BASED ON SITE CONDITIONS AND ACTIVITIES.

LEGEND

WORK ZONE

EXCAVATION

0 20 40

OXFORD ENVIRONMENTAL 43 ROUTE 46 EAST PINE BROOK, NJ 07058 TEL. 973.244.0600 FAX 973.244.0722	WORK ZONES 126 SPICER AVENUE, SOUTH PLAINFIELD, NEW JERSEY		
DRAWN BY: GB	SIZE B	FSCM NO. 20115	DWG NO. 4 / REV 0
CHECKED: JL	SCALE 1" = 20'	4/23/01	SHEET 1

TABLES

Table 1 Summary of Analytical Data Associated with Excavation Delineation 126 Spicer Avenue - South Plainfield, New Jersey			
Sample No.	**Sample Date**	**Sample Depth (inches)**	**PCB Concentration (mg/kg)**
CDFF001	11/14/98	0-2	0.42
CDFF002	11/14/98	0-2	1.01
CDFF003	11/14/98	0-2	0.85
CDFF004	11/14/98	0-2	1.62
CDFF005	11/14/98	0-2	0.72
CDFF007	11/14/98	0-2	1.20
CDFF008	11/14/98	0-2	1.13
CDFF010	11/14/98	0-2	0.78
CDFF011	11/14/98	0-2	1.10
CDFF013	11/14/98	0-2	1.30
CDFF016	11/14/98	0-2	1.10
CDFF018	11/14/98	0-2	0.70
CDFF019	11/14/98	0-2	0.98
CDFF020	11/14/98	0-2	0.48
CDFF021	11/14/98	0-2	1.10
CDFF022	11/14/98	0-2	0.49
CDFF023	11/14/98	0-2	0.46
CDFF024	11/14/98	0-2	0.99
CDFF025	11/14/98	0-2	0.69
CDFF026	11/14/98	0-2	0.94
CDFF027	11/14/98	0-2	1.20
CDFF028	11/14/98	0-2	0.82
CDFF029	11/14/98	0-2	0.75
CDFF030	11/14/98	0-2	0.67
CDFF031	11/14/98	0-2	0.47
CDFF110200-01C	11/2/00	12-18	0.583
CDFF110200-02B	11/2/00	6-12	0.237
CDFF110200-03D	11/2/00	18-24	0.237
CDFF110200-04B	11/2/00	6-12	0.824
CDFF110200-05B	11/2/00	6-12	0.762
CDFF110200-10B	11/2/00	6-12	0.586
CDFF110200-15A	11/2/00	0-6	0.785
CDFF110200-16A	11/2/00	0-6	0.390
CDFF110200-18B	11/2/00	6-12	0.575
CDFF110200-19B	11/2/00	6-12	0.454
CDFF110200-20B	11/2/00	6-12	0.406
CDFF110200-23B	11/2/00	6-12	0.413
No. of Samples in Set			**37**
Distribution			**Normal**
Maximum Concentration			**1.30**
Standard Deviation			**0.32**
Mean Concentration			**0.76**
UCL			**0.10**
95% UCL of the Mean Concentration			**0.86**

APPENDICES

APPENDICES

APPENDIX A

Appendix A: Quality Assurance Project Plan (QAPP)

APPENDIX A
Quality Assurance / Quality Control Procedures

TABLES

1.0 INTRODUCTION

Quality assurance/quality control (QA/QC) protocols were followed during the soil sampling programs identified in the RAWP to ensure sufficient quality to meet the objectives of this project. The evaluation of data involved the collection of QC samples in accordance with the sampling and analysis protocols. QC procedures for measurements not involving the collection of samples were limited to checking the reproducibility of the field measurements by obtaining multiple readings. The QA/QC protocols included the systematic validation of the analytical data and the management of the analytical data in electronic format.

2.0 INTERNAL QUALITY CONTROL

2.1 Calibration Procedures

Calibration procedures are designed to ensure that the laboratory and field equipment used are calibrated to operate within manufacturers' specifications. These specifications include traceability, sensitivity, and precision. Laboratory equipment is calibrated according to the requested analytical method guidelines and the laboratory's QA/QC plan.

Measuring and testing equipment is calibrated nationally recognized standards and is adjusted and maintained at prescribed intervals or prior to use. Documented procedures are used for calibrating or performing field checks on equipment. As applicable, accepted procedures such as those published by the USEPA, American National Standards Institute (ANSI), or the American Society for Testing Materials (ASTM) are utilized.

Calibration and maintenance of field equipment is documented. The method and interval of calibration for each item is defined based on the type of equipment, stability characteristics, required accuracy, intended use, and other conditions that affect measurement control. When equipment is found to be out of calibration, an evaluation is made and documented of the validity of previous results obtained. Devices that are out of calibration are tagged and segregated and are not used until they have been recalibrated. If equipment is found consistently to be out of calibration, it is replaced or repaired. Equipment calibration is also performed when the accuracy is suspect. Equipment is handled and stored properly to maintain accuracy.

2.2 Quality Control Samples

Internal quality control includes contamination control samples (equipment, method, and trip blanks), precision control samples (field and laboratory duplicates), and accuracy control samples (spike samples). A detailed listing of the types of quality assurance samples and the frequency of sampling is presented in Table A.2.1.

2.2.1 Contamination Control Samples (Field Blanks and Trip Blanks)

Field blanks are used to confirm that the sampling device is free of contaminants prior to sampling. Analyte-free water is poured over or through the sampling device, collected in a sample container, preserved, and returned to the laboratory for analysis.

2.2.2 Precision Control Samples (Field Duplicate Samples)

Duplicate samples provide information concerning the precision of the sampling and analytical procedures. Two or more samples are taken in the field so that they represent the same sample matrix, as closely as possible. The results obtained from the duplicated samples reflect the total precision of the sampling and analytical procedures and the variability in obtaining samples that supposedly represent one sampling point.

2.2.3 Accuracy Control (Field Spiked Samples)

Field spiked samples will not be implemented unless a specific need arises that cannot be rectified by laboratory quality control or blind QA/QC samples.

2.3 Laboratory Quality Controls

2.3.1 Contamination Control Samples (Method Blanks)

For each batch of samples processed, method blanks (using ASTM Type I to IV water and reagents) are carried throughout the sample preparation and analytical processes. These blanks are used to assess whether samples are being contaminated in the laboratory. Method blanks are specific for each analytical method, and each batch of 20 or fewer samples.

2.3.2 Accuracy and Precision Control Samples (Matrix Spike, Matrix Spike Duplicate, Laboratory Control, Laboratory Duplicate, and Surrogate Spiked Samples)

Matrix spike and matrix spike duplicate samples are created when the laboratory adds a known amount of an analyte to a portion of a sample. The data from a matrix spike provides information on the matrix effects of a particular sample. The acceptance of the results of analysis of spiked samples, are the limits of recovery defined in the USEPA methods identified in the RAWP.

Laboratory control samples are laboratory control matrix spikes where a consistent matrix is spiked with a known analyte within a normal analytical range. The purpose of the control sample is to check the precision and accuracy of the method and the laboratory procedures. The results of a control sample analysis must fall within ± 3 standard deviation (control limits) of the average recovered concentrations. A control sample must yield results within standard control limits before samples can be analyzed.

A laboratory duplicate consists of a duplicate sample analysis performed for inorganic compounds by the laboratory. The percent difference data generated by this analysis is used to indicate the precision of the sample results and to evaluate the long-term precision of the methods within the confines of the sample matrix.

A surrogate spike sample is created when measured amounts of certain compounds are added before sample preparation or extraction (except for volatile samples, which are spiked prior to analysis). The laboratory measures the recovery of the surrogate to determine systematic extraction or analysis problems. Valid surrogate spike recoveries must fall within the control limits specified in the prescribed USEPA methods identified in the RAWP. Dilution of samples to bring the analyte concentration into the linear range of calibration may dilute the surrogates outside of the quantification limit. The analytical quality, in this scenario is based on the quality control results from the other spiked samples.

TABLE A.2-1
Frequency of Analysis of Quality Assurance Samples

QA Sample Type	Frequency of Analysis
Contamination Control Samples	
Laboratory Method Blank	One per each analytical method. One in every batch of samples (not to exceed 20 samples).
Trip Blank	One per cooler if VOCs are tested; analyze for VOCs only.
Field Blank	One per analytical method. One per sampling day/event or one per 20 samples
Accuracy Control Samples	
Performance or Blind Check Samples	As needed based on QA/QC review.
Surrogate Spiked Samples	Surrogate will be spiked and analyzed in all samples and in all blanks for GC and GC/MS methods
Matrix Spike Samples	One per 20 samples; performed on field designated samples.
Precision Control Samples	
Field Replicate (Duplicate) Sample	One per each analytical method. One out of every 20 samples
Matrix Spike Duplicate Samples	One per 20 samples; performed on field designated samples.

3.0 DATA REPORTING, ASSESSMENT AND VALIDATION

Collection and ultimate presentation of reliable data is the primary focus of the characterization activities. The effort to ensure reliable data begins prior to data collection, as sampling and analysis procedures are evaluated in regard to their ability to generate the appropriate, technically acceptable information required to achieve project objective. The QAPP meets this requirement by establishing objective in terms of quality parameters, analytical methods, and protocols. During and after data collection, results are assessed to assure that the procedures are effective and that the data generated provides sufficient information to achieve project objectives. All data collected during the removal action will be managed, distributed and preserved to substantiate and document that the data are known quality and properly maintained.

3.1 Laboratory Analytical Data Deliverables

The analytical data verification program is primarily designed to ensure that documentation and data are reported using established reporting requirements and that all requested analysis are performed. This process is completed in accordance with approved procedures. Data assessment and reporting by the laboratory is performed according to method specifications. The remainder of the data verification program consists of tracking of data delivery and review of sample identification, chain of custody forms, analytical holding times, requested turnaround time, data results, and data quality parameters.

3.1.1 Data Reporting

The data is reported in a format that will allow the review or validation of samples analyzed under the protocols described in the RAWP. The data package includes all the elements required to validate deliverable data. The data package is prefaced by a Data Summary Report, which summarizes the sample and QC results detailed in the complete data package. The Data Summary Report will include all sample tracking information such as title page, sample cross reference, sample analysis request form, field chain of custody form, and internal chains of custody forms delineating internal sample transfer or subcontracted analyses. The complete data package includes all elements of the Data Summary Report plus all relevant data as outlined in Table A.2-2. The laboratory data package contains the following items:

- Laboratory name and address;
- Case narrative, which includes general comments, a description of the sample types, analyses performed, any sample reanalysis performed, problems encountered, and corrective action results. Specific information regarding quality control results that are outside the control limits or other factors that affect the data use is discussed. These discussions include the problem, corrective action, results of corrective action, and effect on the reported results.
- Sample cross reference;
- Completed chain of custody forms;

- Methodology reference; and
- Relevant summary forms specified in Table A.2-2.

The form number listed in Tables A.2-2 refer to CLP forms; however, summary forms contained in Chapter 1 of SW-846, Third Edition (Revision 0, 1986) or equivalent may be used.

Delivery of analytical data is tracked to ensure that the requested laboratory services are performed in an accurate and timely manner. Data delivery is logged manually on the chain of custody form. After the data reports are received, they are reviewed to determine if all contractual format requirements have been met. In addition, data is reviewed to confirm that all requested parameters are received. Technical personnel familiar with the RAWP review the analytical data for accuracy. Sample data is also compared with the QA/QC samples collected or analyzed within the same sample lot. The data reviewed reports inconsistencies in concentrations, sampling procedures, and sample identification.

3.1.2 Laboratory Data Review

Prior to submission, the laboratory reviews the data with respect to the analytical method requirements. The laboratory also reviews the analytical data and data package to ensure:

- Holding times have not been exceeded;
- Sample preparation information is correct and complete;
- Analysis information is correct and complete;
- The appropriate analytical methods or standard operating procedures (SOPs) have been followed;
- Instrument calibration and QC data are within prescribed limits and documented;
- QC samples are within prescribed control limits;
- Any special sample preparation and analytical request have been met;
- Component identification is correct;
- Quantitative results are correct;
- Common laboratory contaminants are identified;
- Unexpected results are noted; and
- Data package is complete and acceptable for transmittal.

All data is review by someone other than the analyst who generated the data. Errors that are identified and corrected during the review process are documented. Procedures or additional training that is implemented to ensure that the errors do not reoccur are documented. Samples are reanalyzed as deemed appropriate by the laboratory.

TABLE A2-2
Deliverables Required for Analytical Data Package

Polychlorinated Biphenyls (PCBs) – Method SW8082
QC Summary
Tabulated Target Compound Results for Samples, Methods Blanks and Matrix Spikes/Matrix Spike Duplicates, (non-spiked compounds) (CLP Form I Pest of equivalent)
Surrogate Percent Recovery Summary (CLP From II Pest or equivalent)
Matrix Spike/Matrix Spike Duplicates Summary (CLP Form III Pest or equivalent)
Method Blank Summary (CLP Form IV Pest or equivalent)
Initial Calibration (CLP Form VI Pest or equivalent)
Final Calibration (CLP Form VII Pest or equivalent)
Surrogate Retention Times (CLP Form VIII Pest or equivalent)
PCB Standards Summary – All Columns (CLP Form IX Pest or equivalent)
PCB Identification – Positive Results Only (CLP Form X Pest or equivalent)
Analytical Sequence Form (CLP Form III Pest or equivalent)
COMPLETE DATA PACKAGE
Sample Data
Chromatogram – All Columns
Data System Printout – All Columns
Manual Work Sheets
GC/MS Configuration Date – Spectra
Standard Data
PCB Standard Chromatograms and Data System Printouts for all associated Standards
RAW QC Data
Blank Data
Chromatograms and Data System Printouts – All Columns
Matrix Spike/Matrix Spike Duplicates
Chromatograms and Data System Printouts

3.2 Assessment of Field Data

Checking the procedures used and comparing the data to previous measurements is done to assess data collected during the field activities. Field QC samples are evaluated to ensure that field measurements and sampling protocols have been observed and followed. The following is assessed:

- Use of standard operating procedures;
- Calibration method and frequency;
- QC lot number;
- Date and time sampled;
- Preservation;
- Samplers;
- Laboratory;
- Chain of custody forms; and
- Date shipped.

The field data is reported as follows:

- Vertical control is measured to 0.01-foot, horizontal control is measured to the nearest 0.1 foot.

Field data validity is determined by checking calibration procedures utilized in the field, and by comparing the data to previous measurements, if any, at the site. Variations greater than 50 percent are examined for possible recollection of data or assignment to a lower level of analytical data quality.

3.3 Data Validation

Data validation is the process of reviewing laboratory records of analytical data and quality-related field data to assess performance as compared to QC criteria, data quality requirements, and procedural requirements. The purpose of validation is to document the quality and usefulness of the data and the documentation developed during the sample analysis. Specifically, the purpose of the data validation is to determine if any quantitative problems are evident from the laboratory QA/QC data, not to verify whether the laboratory reported QA/QC information is correct. Specific performance follows the appropriate functional guidelines and USEPA regional guidance. Validation of analytical data includes an evaluation of data quality parameters, false negatives and negatives, and method detection limits.

Calculations that interpret and analyze data are performed in a planned, controlled, and documented manner. Calculation documentation for interpretation and analysis is provided, such that a technically qualified person may review, understand, verify, and duplicate the calculations without recourse to the originator. Calculations are legible, complete, and in a form suitable for reproduction, filing and retrieval. Calculations are identifiable by subject, originator, reviewer, and date, and include the following:

- Definition of the objective of the interpretation or analysis;
- Definition of inputs and their sources;
- A listing of applicable references;
- Results of literature searches and other background data;
- Identification of assumptions;
- Identification of any computer calculations, including computer type, program name, revision, input, output, evidence of program verification, and the bases of application to the specific problem; and
- Signature and dates of the review and approval by appropriate qualified personnel.

The data validation process consists of reviewing and evaluating the analytical documentation supporting the data resulting from laboratory analysis. The analytical process itself is first evaluated by reviewing the laboratory analytical records to ensure compliance with the procedures governing the analysis. These records include, but are not limited to, sample custody records, sample preservation logs, instrument printouts, calibration checks, and initial calibration data. The data validation process also evaluates the data for precision, accuracy, and completeness by comparing the data to the field blank, duplicate sample, and matrix spike/matrix spike duplicate sample analysis results and the corresponding laboratory QA/QC data.

Oxford reviews and qualifies 100% of the data packages by reviewing the applicable summary forms (Tables listed in Table A.2-2) and certain raw data for the items listed below. The data packages are reviewed against performance criteria in the appropriate analytical method and the data quality objectives defined for the project. All analytical results are reviewed, and the following items are assessed as appropriate:

- Surrogate percent recoveries;
- Method blank data;
- BC/MS tuning and mass calibrations;
- Initial calibration summaries;
- Continuing calibration summaries;
- Matrix spike recoveries;
- Matrix spike/matrix spike duplicates;
- Field duplicates;
- Field and trip blanks;
- Identification of outliers; and
- Calculation of overall completeness.

The laboratory results are also reviewed for:

- Unexpected results;
- Common laboratory contaminants; and
- Unusual spatial concentration/analyte relationships.

If problems are noted during the review, the data packages are further reviewed to determine if the problem is random or systematic. If systematic problems are identified the laboratory is contacted immediately. Data is qualified based on the results of the validation.

3.4 Data Qualification

The purpose of the data qualification process is to determine and summarize the quality and reliability of the analytical data and to document factors, which affect the data usability. The data qualification process consists of a review of the laboratory and field data. Qualification is performed by Oxford. The data will be qualified as "accepted without any qualifications", "accepted with noted qualifications" (flagged with a "J" or "UJ", or "unusable"(rejected, flagged with an "R") based upon the review process. Oxford determines if "rejected" results are critical to the program and resampling and reanalysis is required. Information used in the qualification process includes:

- Chain of custody documents;
- Laboratory data packages;
- Information from the sampling team on field conditions and field QC samples;
- Sampling location;
- List of all field samples obtained; and
- The QAPP.

4.0 DATA MANAGEMENT AND RESULTS REPORTING

4.1 Data Management

Environmental data is prepared and maintained an electronic file. Sample identification will remain consistent with those explained in the RAWP.

4.2 Data Reporting

Data reports associated with the implementation of the RAWP consist of the presentation of the raw analytical data, summaries of the validation and verification effort, as well as interpretative efforts relative to the data.

5.0 PERFORMANCE AND SYSTEM AUDITS

5.1 Performance and System Audit Procedures

Planned and scheduled audits are performed to verify compliance with aspects of the QA program and to evaluate its effectiveness. Audits include an objective examination of work areas, activities, processes, review of documents and records, interviews with project personnel, and review of plans and standards.

Performance and system audits area key mechanism for ensuring technical and procedural compliance with the RAWP. The purpose of the system audit is to:

- To verify that the field and laboratory QA procedures documented in the QAPP are properly followed and executed;
- To check that appropriate documents are properly completed and are kept current and orderly;
- To ensure that measurements systems are accurate; and
- To identify nonconformance or deficiencies and to initiate necessary corrective actions.

The project manager and the QA/QC coordinator manger are responsible for assuring conformance with standard operating procedures. At least one field audit will be performed during the implementation of the RAWP. The laboratory typically conducts monthly or bimonthly internal audits.

Activities selected for audit will be evaluated against specified requirements, which will include an evaluation whether the QA program is effective and properly implemented. Reports and recommendations are prepared on all audits and submitted to the QA/QC coordinator for retention in the project file.

5.1.1 Review of Sampling Program

The project manager reviews field documents for accuracy, completeness, and compliance with the QAPP requirements. The project manager also audits sampling for compliance with QAPP procedures. The audit checks that:

- Sample protocols are followed;
- Field measurements are done correctly;
- Field documentation is completed;
- Samples are placed in proper containers;
- Samples are stored and transported properly; and
- Sample custody procedures are followed.

5.1.2 Review of Laboratory Procedures and Analytical Results

Laboratory procedures are reviewed by the laboratory's QA officer whenever a beyond control limit situation is found. The laboratory manager checks analytical results prior to final distribution.

5.1.3 Technical Review

Technical reviews are conducted during various tasks. These reviews assure the technical feasibility, accuracy, thoroughness, and soundness of the work performed by the technical staff.

5.1.4 Management Review

The project manger reviews the execution of the quality assurance program on a regular basis. The review includes the training of personnel, manpower commitments and proper coordination of efforts and schedules.

5.2 Preventative Maintenance

A preventative maintenance program exists for equipment and systems that are subject to breakdown, when the breakdown could lead to safety hazards, waste release, or significant loss of completeness and accuracy in data. The preventative maintenance schedule is based on the manufacturer's recommendations.

Qualified personnel regularly maintain laboratory analytical instruments. The analyst performs daily checks of each instrument such as changing gas chromatagram inlet liners, checking operation of data systems, checking for leaks, and other similar procedures recommended by the equipment manufacturer.

Field instruments are checked daily and prior to use. Field instruments are calibrated in the field on a daily basis during project implementation in accordance with manufacturer's instructions. Maintenance and performance logs are maintained for equipment and instruments and include:

- Name of the equipment and manufacturer;
- Model and serial number;
- Date equipment placed into service;
- Instructions for proper maintenance or performance checks and the name of the person performing; and
- Nature, cause and name of person performing repairs due to malfunctions.

5.3 Corrective Action Procedures

When a noncorformance or deficiency is identified, corrective action is implemented under the direction of the project manager. The corrective action process typically involves:

- Reviewing questionable data with respect to predetermined limits for data acceptability;
- Identifying and defining problems for which corrective action is required;
- Assigning responsibility for investigation the problem
- Determining disposition or action taken (reanalysis, resampling and analysis, remeasurement of field data);
- Assigning and accepting responsibility for implementing the corrective action;
- Evaluating the disposition of corrected action results; and
- Documenting the correction action taken and results.

The laboratory supervisor will be responsible for implementing corrective action in the laboratory, and the on-site field manager will be responsible for implementing corrective action in the field. The project manager is responsible for ensuring that the corrective action has been taken and that it adequately addresses the nonconformance. The project manager is authorized to stop work until an unsatisfactory condition has been corrected.

5.4 Quality Assurance Reports

The project manager or designee reviews aspects of the implementation of the RAWP and at the conclusion of the project will prepare a summary report. These reviews include an evaluation of the data quality assessment activities, the results of audits and surveillances (as appropriate), and an assessment of the status of nonconformances and corrective actions. The final project report will also include a separate QA section that will summarize the overall data assessment and validation in accordance with the data quality objectives outlined in the QAPP.

Significant nonconformance or quality problems are reported to the project coordinator for evaluation and possible management action. Examples of significant nonconformance or quality problems include the following:

- Failure of an organization to establish and implement appropriate QA and technical requirements, plans and procedures.
- Continuous or repetitive program inadequacies, deviations or noncompliances and failure of appropriate organizations to provide proper direction, overview, or corrections.
- Failure of project organizations to take reasonable prompt and effective actions to correct deficiencies.

Comprehensive records will be maintained to provide evidence of the quality assurance activities. The project manager will be responsible for ensuring that quality assurance records are properly stored and that they can be retrieved.

APPENDIX B

Appendix B: Health and Safety Plan (HASP)

APPENDIX B
Health & Safety Plan

ATTACHMENTS

TABLE

FIGURE

1.0 INTRODUCTION

This health and safety plan (HASP) outlines the procedures during the implementation of the RAWP. This removal action includes the excavation, removal and transportation of polychlorinated biphenyl (PCB) contaminated soils.

This HASP was developed in accordance with the requirements of the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) and the United States Environmental Protection Agency (USEPA) Standard Operating Safety Guidelines (OSWER 1988). This HASP establishes the minimum requirements to maintain safe working conditions at the site.

This document will apply to Oxford personnel working on this project. All contractors and subcontractors (contractors) will be required to review site conditions and work to be performed to determine specific safety and health requirements for their personnel. Each contractor involved in removal action activities at the site will be responsible for the safety of its personnel and representatives. An agreement to comply with the requirements of the HASP will be signed by all personnel and visitors prior to entering work areas other than the support zone.

2.0 SITE DESCRIPTION

The remedial action work activities will take place at 126 Spicer Avenue located in South Plainfield, New Jersey. The approximate 100-foot by 200-foot site is located across from the Hamilton Industrial Park.

3.0 CONTAMINANT CHARACTERIZATION

PCBs in the soil are the contaminants of concern that have been identified at the site. The highest reported concentration of PCB in the soil at the site was 6.2 mg/kg.

4.0 ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

Oxford will provide health and safety oversight for contractors involved in the project. Personnel working on the job will be qualified to perform the tasks that they are assigned. Contractors will ensure that personnel possess the necessary qualifications consisting of sufficient knowledge gained through experience and training to effectively execute the duties of their position. The contractor is ultimately responsible for the health and safety of their own employees and representatives. Project personnel will be responsible to review the HASP, or the HASP prepared by the contractor, which must meet the minimum requirements set forth in this HASP, and acknowledge their understanding and compliance with its provisions by signing on the approval/signoff sheet found in Attachment 1.

The following table identifies project personnel and the chain-of-command critical to the proper implementation of the project and elements of this HASP. Changes in personnel assignment or function may occur periodically, and shall be reflected in HASP revisions and/or updates as necessary.

Project Function	*Assigned Personnel*	*Contact Info*
Project Coordinator	Timothy Francisco	Office (973) 244-0600 Nextel (973) 703-2980
Health & Safety Officer (HSO)	Joseph Arcoleo, CSP, CHMM	Office (973) 244-0600 Nextel (973) 625-8924
Project Manager	John Moco	Office (973) 244-0600 Nextel (973) 703-2979
Field Geologist	Joy Lee	Office (973) 244-0600 Nextel (973) 703-2982
Field Technician & Equipment Operator	Bill Bilgeshouse	Office (973) 244-0600 Nextel (973) 703-2985

5.0 SITE SAFETY AND HEALTH OFFICER

The site health and safety officer (SHSO) is responsible for implementing the on-site elements of the HASP in the field. The SHSO reviews the HASP with personnel working on-site prior to the start of excavation and transport activities. In addition, the SHSO implements any air monitoring required by the HASP. Based on the results of the sampling, the SHSO determines the upgrading or downgrading of the levels of personal protective equipment (PPE), and recommends changes to operations and controls in the event that worker or public safety or health is threatened.

6.0 HAZARD ASSESSMENT AND RISK ANALYSIS

6.1 Basic Safety Work Practices

To provide the safest working conditions possible, site personnel will follow these basic safe work practices:

- Hard hats and sturdy work boots are required at all times in the work areas.
- Safety glasses/goggles/eye protection will be worn at all times.
- Hearing protection will be worn while performing high noise tasks, such as heavy equipment operation.
- Protective gloves are required when handling material that cuts, burns, or contaminates the skin.
- Good housekeeping will be practiced at all times.
- Access to safety and fire-fighting equipment will be kept clear at all times.
- Gasoline or diesel equipment will not be refueled when running.
- Horseplay, fighting, gambling and stealing will not be tolerated.
- No employee, other than the operator, will ride on the trucks, loader or moving equipment unless authorized.
- Immediately report all near incidents, accidents or injuries to your immediate supervisor.
- Report unsafe conditions or practices to your immediate supervisor.
- No one will be permitted to engage in work operations alone.
- Smoking, eating, drinking, and chewing gum or tobacco will not be permitted within work zones.
- Personnel should keep track of weather conditions and wind direction to the extent these could affect potential exposure.
- Personnel should be alert to any abnormal behavior on the part of other workers that might indicate distress, disorientation, or other ill effects.
- Personnel should never ignore symptoms that could indicate potential exposure to chemical contaminants. These should be immediately reported to the site supervisor or the SHSO.

All individuals at the site will comply with all federal, state and local health, safety and environmental rules, regulations and ordinances.

6.2 Physical Hazards

No penetration, chemical, heat, or radiation hazards are anticipated during the implementation of the RAWP.

The transport of materials via heavy equipment is the only impact hazard anticipated during the implementation of the RAWP. To mitigate this hazard, individuals working on the site will wear reflective safety vests. In addition, all moving heavy equipment will be equipped with reverse audible signal devices.

Compression hazards in the form of material moving and moving machine parts are anticipated during the implementation of the RAWP. To mitigate this hazard, individuals working on the site will wear reflective safety vests, hard hats, and safety glasses. In addition, all moving heavy equipment will be equipped with reverse audible signal devices.

Harmful dust hazards are anticipated during the implementation of the RAWP. To mitigate this hazard dust suppression measures such periodic wetting of soil will be done. In addition, Level D PPE consisting of disposable latex gloves, Tyvek suits, and rubber booties will be worn. Continuous air monitoring will be conducted to determine whether upgrading to Level C PPE is warranted.

Activities will be performed in compliance with applicable OSHA General Industry (29 CFR 1910) or Construction (29 CFR 1926) standards.

6.3 Chemical Hazards

PCBs have been identified as the only chemical contaminant of concern associated with the soil excavation. PCBs are a class of industrial chemical that contains 209 individual compounds. PCBs made in the United States were marketed under the trade name Arcolor and were identified by a 4-digit numbering code in which the first 2 digits indicate that the parent molecule is a biphenyl and, for the 1200 series Arcolors, the last 2 digits indicate the chlorine content by weight. For example, Arcolor 1254 has 54 percent chlorine. Arcolors 1254 and 1260 have been detected in the soils at the site and will be removed as part of the RAWP.

PCBs are generally clear, colorless to light yellow, viscous liquids or solids with a mild hydrocarbon odor. They have a low vapor pressure thus have a low volatility.

According to ATSDR, chronic (long-term) exposure to PCBs by inhalation in humans has been reported to result in respiratory tract irritation and gastrointestinal effects including anorexia, weight loss, nausea, vomiting, abdominal pain and mild liver effects. Effects on the skin and eyes include chloroacne, skin rashes, and eye irritation.

6.3.1 Worker Chemical Hazard Assessment

- Inhalation:
  PCBs' low volatility makes the release of potentially significant levels of airborne vapor extremely unlikely, so that the most probable inhalation exposure would

be to PCB contaminated dusts generated during excavation. However, the low soil concentrations indicate that very high dust levels would need to be generated (see Section 10 Action Levels) for the current OSHA Permissible Exposure Limit (PEL) or American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) to be exceeded. Based on the low concentrations of PCBs in the soil, inhalation exposure potential is expected to be minimal. Further site controls described in Section 10 will eliminate the potential for such high dust levels. Inhalation of PCB contaminated dust at high concentrations can result in liver damage and/or cause adverse reproductive effects or symptoms.

- Direct Contact and Ingestion:
  Prolonged skin contact to PCBs can result in chloro-acne. Similar to inhalation and ingestion of PCBs can result in liver damage or cause adverse reproductive effects.

  The use of Level D PPE and proper decontamination procedures will be implemented to reduce the risk of direct skin contact and ingestion. Eating, drinking or smoking is not permitted in the exclusion zone or the contamination reduction zone.

6.3.2 Residential Exposure Chemical Hazard Assessment

- Inhalation:
  As stated above, the low volatility of PCBs makes the generation of potentially significant levels of PCB vapor unlikely. Similarly, dust levels are not likely to be created that could pose potentially significant inhalation risk to residents. Regardless, the more conservative exposure level recommended by NIOSH will be used during all excavation activities, which is 0.001 mg/m^3. Further residents will not be allowed in work zones during excavation activities, and site controls described in Section 10 will eliminate the potential for such high dust levels. As described in Section 6 inhalation of PCB-containing dust may have adverse effects.

- Direct Contact and Ingestion:
  Direct contact or potential ingestion is also an unlikely route for residents, provided that the immediate excavation work areas are monitored, restricted to qualified site personnel only and secured during the workday. The excavation will be properly covered or backfilled during non-working hours; the immediate work areas will also be secured at night. Residents will no be allowed in work zones during excavation activities or in areas which have not been backfilled. As described in Section 6 skin contact and ingestion of PCB-containing dust may have adverse effects.

7.0 TRAINING

All personnel working on the excavation and removal of PCB contaminated soils will have received 40 hour OSHA health and safety training in compliance with standards found in 29 CFR 1910.120(e) and will have maintained their training through annual refresher classes as required by 1910.120(e)(8). All personnel will be required to produce written certification of current training that meets the requirements of 1910.120(e)(6).

All personnel, including any visitors, will be provided with a site orientation prior to entering the work areas. All personnel involved in the excavation or tasks involving potential direct contact with PCB contaminated soils will be trained on the proper use of personal protective equipment, site physical and chemical hazards, decontamination procedures, engineering and administrative controls, site emergency procedures, and this HASP. Site-specific training will address the tasks to be performed and the measures to be followed to ensure the safety of personnel. Safety briefings will be held as needed, at least once every 10 days, and will include a review of any safety and health issues that are related to site activities.

8.0 PERSONAL PROTECTIVE EQUIPMENT

Personnel engaged in excavation activities will use PPE to protect against site hazards. Selection of PPE is dependent upon the types and concentrations of hazards present and the operations to be performed. See Attachment 2 for Hazard Assessment Summary.

Site personnel performing excavation activities during the project will use modified Level D protection. To ensure the safety personnel, the level of protection may be upgraded based on visual observations of excessive dust generation, confirmation with a Mini Real Time Aerosol Monitor (mini-RAM or equivalent) and the judgement of the SHSO. The requirements for upgrading the level of protection are presented in Section 9. Each level of protection is outlined in the table on the following page.

Level of Protection	Personnel Protective Equipment
Modified Level D	• Work clothes
	• Safety glasses
	• Hearing protectors (when needed)
	• Safety boots
	• Latex boot covers
	• Hard hat
	• Inner nitrile or latex surgical gloves with outer work gloves
	• Tyvek or other disposable coverall (for work tasks with the potential for contact with the PCB-contaminated soil (e.g., hand excavation activities))
Level C	• Full-face air purifying respirator (APR) with combination High Efficiency Particulate Air (HEPA) cartridges, NIOSH approved for protection against particulates and organic vapors, acid gases and formaldehyde
	• Work clothes
	• Safety boots
	• Hearing protectors (when needed)
	• Latex boot covers
	• Hard hat
	• Inner nitrile or latex surgical gloves with outer work gloves
	• Tyvek

9.0 MEDICAL SURVEILLANCE

All workers who will perform work on the project will be included in a medical surveillance program established by their own employer as required under 1910.120(f). At a minimum, medical examinations will include a medical and work history (or updated history if one is in the employee's file) and a current physical examination. Special emphasis will be places on the symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under expected site conditions, such as temperature extremes, that may be expected. No employee will be permitted to work on the properties without having received a medical clearance from a licensed physician.

10.0 ACTION LEVELS

The HASP identifies action levels (ALs) that have been established to endure that the correct type of protection is used to protect personnel when specific conditions are encountered on the site. These ALs establish a trigger-level, which if exceeded, require that a particular "action" be taken.

10.1 Action Level

In the preparation of the AL, the results from the collection of soil samples that identified PCBs in the soil were reviewed. Using a maximum concentration of 6.2 milligrams of PCBs per kilogram of soil (6.2 mg/kg), an exposure limit for PCB contaminated dusts was calculated using the following formula:

$$\textit{Action Level} = \frac{EL\ (mg/m^3)\ (10^6)}{Soil\ Conc.\ (mg/kg)\ (Safety\ Factor)}$$

Where: EL= exposure limit (Permissible Exposure Limit (PEL) or Threshold Limit Value) (TLV)) (NIOSH PEL utilized)
Safety Factor = 10 (conservative factor based on adequacy of site characterization).

Substituting the values into the formula yields the following exposure limit:

$$\frac{0.001\ mg/m^3\ (10^6)}{6.2\ mg/kg\ (10)} = 16.1\ mg/m^3$$

From this equation, the total dust concentrations in air would need to reach 16 mg/m^3 to create an airborne concentration of PCBs that would equal the NIOSH PEL. Since this number is higher than the nuisance dust standard of a time weighted average (TWA) of 10 mg/m^3, the action level in this case defaults to the nuisance dust standard. In addition to the use of DataRAM to ensure ambient dust levels do not exceed the action level stated above, the SHSO will ensure that no visible dust omissions occur. To prevent visible dust from occurring all areas will be misted using a Hudson-type sprayer.

10.2 Response to Action Level Exceedance

The AL will be used by the SHSO to determine when modification to the site level of protection should occur. The SHSO will have the authority to make decisions regarding the upgrading or downgrading of PPE based on visual observation of dust generation, the results of direct-reading instrument measurements and TWA air sampling specific for PCB, if warranted.

To reduce the exposure to employees, the highest priority will be given to engineering controls and administrative controls. An example of an engineering control involves the site to reduce the concentration of airborne dust. An example of an administrative control involves changing the work practices or procedures. The site supervisor will implement any controls that are required to avoid the exposure of site personnel.

When determined by the SHSO, TWA sampling specific for PCBs may be conducted to confirm the exposure and the airborne concentration of the contaminant. In addition, TWA sampling will confirm the results obtained using the direct-reading instruments.

11.0 AIR MONITORING

11.1 Scope of Monitoring Activities

Air monitoring will be conducted to identify and quantify concentrations of airborne dust to verify and determine the level of worker protection needed and to document the level of airborne contaminants that may potentially migrate from the site to the residential homes. During excavation activities, air monitoring will target the following areas:

- The excavation area at the site;
- The closest portal into the home (door, window, etc.); and
- The site perimeters (when indicated by visible dust generation)

11.2 Direct-reading Measurements

The SHSO will conduct monitoring using a mini-RAM aerosol monitor when work activities are likely to generate dust concentrations, or when visual observation of dust from site activities indicates the need to monitor.

The direct-reading instruments will be calibrated according to manufacturer's instructions prior to field use. Calibration of the mini-RAM will be performed before and after sampling each day that the instrument is used. Daily calibration checks of the instrument, areas where measurements were taken, instrument settings, and readings obtained will be recorded in the site safety and health logbook. The battery in each unit will be recharged after use to maintain a good charge.

When collecting measurements using the mini-RAM, the readings will be taken over a minimum period of ten minutes in an area or areas representative of the workers' breathing zone. The SHSO will record the average result for the interval. This strategy accounts for the variability in the concentration with time and avoids the situation where a decision to change PPE is made based on one instantaneous measurement.

A mini-RAM will be set-up at the nearest portal to the excavation and will continuously monitor the dust concentrations during the excavation work. The SHSO will monitor the mini-RAM at least once every 30 minutes. The date, time and concentration will be recorded in a logbook.

11.3 Time-weighted Average Sampling

TWA sampling will be conducted if necessary based on MiniRAM readings, during excavation activities to evaluate employee exposures to PCBs at the discretion of the SHSO. TWA sampling will be collected at locations that will represent the most exposed work group to obtain a "worst-case" determination of exposures.

TWA samples will be collected, if necessary, by drawing a known volume of air across a 37-millimeter (mm) glass fiber filter collection media over and 8-hour period. The sampling and analytical procedures to be followed for the collection, handling, and analysis of the TWA work area and perimeter area samples are those prescribed by NIOSH Analytical Procedure 5503. The calibration protocols described in the NIOSH methods will be followed. Analysis will be performed by a laboratory accredited by the American Industrial Hygiene Association.

11.4 Protocol for Sampling

Measurements at these locations will be made at various intervals during the shift as determined by the SHSO. The monitoring protocols are as follows:

Task	**Type Sampling**
Excavation, dump truck loading and associated tasks (tamping and residual clean-up)	Periodic Mini-RAM (Direct Reading)- every 30 minutes Time Weighted Average (as indicated by visual observation and mini-RAM monitoring)
Residential home portal	Continuous Mini-RAM (Direct Reading)
Site perimeter	Periodic Mini-RAM (Direct Reading)- every 60 minutes

12.0 WORK ZONES

Because of the nature of the excavation, work zones will be established at the beginning of each work shift. The exclusion zone will include the immediate excavation area, including the equipment, and will extend twenty feet from the excavation or to the nearest physical structure (building, fence) if feasible. The perimeter of the exclusion zone will be demarcated with "caution" tape or other visible marking. If feasible, the contamination reduction zone will be positioned immediately adjacent to the perimeter of the exclusion zone, upwind of the prevailing wind direction. A disposal container will be located in this area for disposable PPE. The support zone will be located in an area convenient to the exclusion zone, but located such that it does not block traffic or interfere with other nearby residences.

13.0 DECONTAMINATION

13.1 Personnel Decontamination

The first step in the decontamination of personnel wearing PPE involves the removal of equipment that is visibly contaminated. A decontamination area will be established in the contamination reduction zone. Step by step procedures include:

Step 1	If boot covers are used, remove boot covers and place in disposal container; if boot covers are not used, step into boot wash.
[Step 2]	[Remove protective suit and place in disposal container]
Step 3	Remove outer gloves and place in disposal container
[Step 4]	[Remove respirator and cartridges. Place cartridges in disposal container; place respirator in designated bin for decontamination and cleaning]
Step 5	Remove inner gloves and place in disposal container
Step 6	Wash and rinse hands and face

Note:

[] denotes optional steps for decontamination of level C equipment if required.

13.2 Equipment Decontamination

To minimize the need for decontamination, unnecessary equipment and vehicles will not be brought into the contaminated areas of the site. Decontamination of the equipment will be the responsibility of the site workers and contractors under the direction of the site supervisor or designee.

14.0 EMERGENCY RESPONSE

Site personnel will be prepared to respond quickly in the event of an emergency. Emergencies may include illnesses or injuries, fires, vehicle accidents, spills, releases of hazardous substances or sudden changes in the weather. Local emergency response teams will be called on to respond in the event of an emergency (see Table 14-1).

The site supervisor has primary responsibility for responding to and correcting emergency situations. The site supervisor is also responsible for insuring that corrective action measures have been implemented, appropriate authorities notified and follow-up reports completed.

Personnel working on the project will receive training to ensure that they understand the procedures to follow in the even of an emergency. This includes:

- Hazard recognition;
- Signaling an emergency; and
- Evacuation routes.

The list of emergency contact phone numbers, provided in the table below, will be posted at all site telephones and vehicles. This list includes local emergency responders and medical facilities, and other agencies to be contacted in the event of an emergency.

Required emergency equipment locations on the site are as follows:

Eyewash:	Designated decontamination area
First aid kit:	Designated decontamination area
Fire extinguisher:	Designated decontamination area and on vehicles operating in the exclusion zone

The hospital or emergency care facility must be provided information concerning the nature of the emergency, who was injured, and any other information that will assist personnel in treating the injured worker. When calling for assistance in an emergency situation, the following information should be provided:

TABLE 14-1 Emergency Contact Phone Numbers	
Ambulance: South Plainfield Rescue Squad	911
Police: South Plainfield Police	911
Fire Department: South Plainfield Fire	911
Hospital General Number: Hospital Emergency Room:	908-668-2000 908-668-2200
Client contact:	617-832-1000
Poison Control Center:	(800)233-3360
CHEMTREC	(800)424-9300
National Pesticide Information	(800)845-6733

1. Name of person making call
2. Telephone number and location of person making call
3. Name of person(s) exposed or injured
4. Nature of emergency
5. Actions already taken

Recipient of call should hang up first, not the caller.

All injuries are illnesses must be immediately reported to the site supervisor. In the event of an injury or illness while on the job-site, first aid should be administered and an immediate determination should be made as to the need for further emergency treatment and/or transportation. Site personnel familiar with the incident should accompany any person transported to a hospital for treatment.

Minor incidents not requiring hospitalization will be handled by trained first-aiders, using first aid materials provided by them and maintained by the site supervisor. First-aiders who may come in contact with or potentially come in contact with blood or other bodily fluids, should be informed about the requirements of the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030).

14.1 Route to Hospital

In the event that and injured person must be transported to the hospital, the following directions are provided to Muhlenburg Hospital (Hospital Route Map included in Figure E-1):

Turn west onto Spicer Avenue. Proceed to the corner and take a right onto Hamilton Avenue. Proceed to the first light and make a right onto Maple Avenue. Proceed on Maple Avenue to the next light and make a left onto Park Avenue. The hospital is approximately 1 mile down on the right. For emergency entrance, proceed to the end of the block and turn right onto Randolph Avenue.

14.2 First Aid for PCB Exposure

The following first aid instructions for PCB exposure are from the NIOSH Pocket Guide to Chemical Hazards:

Eyes:
- Immediately wash the eyes with large amount of water, occasionally lifting the lower and upper lids.
- Get medical attention immediately.
- Contact lenses should not be worn when working with this chemical.

Skin:
- Immediately wash the contaminated skin with soap and water.
- If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly.

Inhalation:
- Move the exposed person to fresh air at once.
- If breathing has stopped, perform mouth-to-mouth resuscitation.
- Keep the affected person warm and at rest.
- Get medical attention as soon as possible.

Ingestion:
- If this chemical has been swallowed, get medical attention immediately.

15.0 SITE DOCUMENTATION

The site supervisor will maintain records of site briefings and a log indicating personnel working on the project and site visitors.

Training records will include, at a minimum:

- Date, starting time and duration of training;
- Topics covered, including any exercises performed or special instructions; and
- Roster of personnel who attended.

A daily log of personnel working on-site will be maintained. This log will provide a reference if an incident occurs and an accounting of personnel is required.

16.0 EATING, DRINKING, AND SMOKING PRECAUTIONS

Since ingestion is a potential contaminant exposure pathway, eating, drinking, and smoking is prohibited near excavation activities. Site personnel working in the excavation areas will complete the required personnel decontamination upon exiting and prior to eating, drinking, or smoking off-site.

Appendix C: Site Restoration Plan

APPENDIX C
RESTORATION PLAN

1.0 INTRODUCTION

This restoration plan outlines the scope of work for replacing existing landscape features that may be disturbed as a result of the excavation, removal and transportation of polychlorinated biphenyl (PCB) contaminated soils associated with the Removal Action Work Plan (RAWP) for the site.

2.0 SITE DESCRIPTION

The RAWP activities will take place at the site, which is directly across the street from the Hamilton Industrial Park. The site is mainly covered by grass vegetation with the exception of five trees and a few small evergreen foundation plantings.

3.0 RESTORATION PLAN

The following list identifies the existing on-site likely to be impacted and replaced as a result of the removal of the PCD contaminated soil:

- Approximately 460 square yards of sod lawn;
- One small (approximately 30 inches high) azalea bush;
- Approximately 8-12 Callas lilies;
- One maple tree (36″ diameter); and
- One privet hedge (36 inches high).

Reasonable effort and care will be taken protect or minimize impact to existing vegetation including lawn areas, where equipment traffic is anticipated without excavation. Protection will include placing geotextile fabric to overlay lawn. This will in turn be overlain with mulch (wood chips), which will then also be covered with geotextile fabric.

Each day following the completion of work, the excavations will be backfilled with clean soil and graded to original condition. Once backfilling activities have been completed at the site, the landscaping will be restored to existing conditions or equivalent value.

APPENDIX D

Appendix D: Disposal Facility Information

APPENDIX D
TREATMENT AND DISPOSAL FACILITY INFORMATION

LANDFILL AND TREATMENT FACILITY PROPOSED FOR DISPOSAL OF PCB CONTAMINATED SOIL

1. **Casie Protank Ecological and Environmental Services/MART Technologies**

Mailing Addresss:	Casie Protank 3209 North Mill Road Vineland, NJ 08360 EPA ID# NJD045995693
PCB Acceptable Limit:	50 mg/kg

APPENDIX E

Appendix E: Site Access Agreement

CONSENT FOR ACCESS AGREEMENT

Name of Owner: Eugene Pesaniello, Sr.

Address of Owner: 77 Murray Avenue
Piscataway, NJ 08854-3145

Name of Occupant: Eugene Pesaniello, Jr.

Address of Occupant: 126 Spicer Avenue
South Plainfield, NJ 07080

Property: 126 South Plainfield Avenue
Block 337, Lots 14, 14.01 and 15
South Plainfield, Middlesex County, NJ

I consent to officers, employees, agents, contractors and other authorized representatives of D.S.C. of Newark, Inc. ("DSC") for entering and having access to my property and all improvements thereon for purposes of removing therefrom contaminated soil and other harmful or potentially harmful contaminated materials.

I realize that these actions are undertaken by DSC under its written Administrative Order on Consent with the United States EPA.

This written permission is given by me voluntarily with knowledge of my right to refuse and without threats or promises of any kind.

By signing below, I certify that I am either the owner or the occupant of the above-referenced property which will be affected by this Agreement, and that I am authorized to enter into this Agreement.

Owner:

Eugene Pesaniello Sr.
Eugene Pesaniello, Sr.

Date: July 25, 2000

Phone No. 908-756-3251

Occupant:

Eugene Pesaniello
Eugene Pesaniello, Jr.

Date: July ___, 2000

Phone No. 908-757-2917

APPENDIX F

Appendix F: Project Schedule

Implementation Schedule Associated with Removal Action Work Plan
126 Spicer Avenue - South Plainfield, New Jersey

Task	Day
1. USEPA approval of RAWP	0
2. Completion of site preparation and surveying	10
3. Submission of initial disposal facility documentation to USEPA	14
4. Approval of initial disposal facility documentation by USEPA	21
5. Begin excavating, loading, and transportation of PCB contaminated soil	28
6. Complete excavating, loading, and transportation of PCB contaminated soil	30
7. Complete site restoration	32
8. Submission of final report documenting activities associared with RAWP to USEPA	53

Note: Schedule subject to change due to weather or other unforeseen factors. Oxford will update this and resubmit the schedule immediately should this occur.